REPORT RESUMES

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THE INFORMATION IN THIS STUDY GUIDE WAS DEVELOPED FOR USE IN RELATED TECHNICAL INSTRUCTION IN APPRENTICE TRAINING FOR THE FLOOR COVERING TRADE. THE MATERIAL WAS WRITTEN BY TRADE INSTRUCTORS AND JOURNEYMEN UNDER THE DIRECTION OF THE STATE EDUCATIONAL ADVISORY COMMITTEE FOR THE FLOOR COVERING TRADE. THE UNITS ARE (1) INTRODUCTION TO THE TRADE, (2) MATERIALS OF THE INDUSTRY, (3) TOOLS OF THE TRADE, (4) CARPET PREPARATION, (5) CARPET INSTALLATION, AND (6) CARPET REPAIRS. THE UNITS ARE DIVIDED INTO STUDY TOPICS EACH OF WHICH HAS AN INTRODUCTION OF BACKGROUND INFORMATION WITH AN OUTLINE OF MAJOR POINTS IN QUESTION FORM, A SECTION OF RELATED INFORMATION, A STUDY ASSIGNMENT FROM SUPPLEMENTARY MATERIALS, AND A CHECKUP TEST OF TRUE-FALSE QUESTIONS FOR STUDENT SELF-EVALUATION. PHOTOGRAPHIC AND LINE-DRAWING ILLUSTRATIONS ARE INCLUDED. A RECORD OF TOPICS COMPLETED MAY BE KEPT IN THE STUDY GUIDE INDEX. THE STUDY OF THIS 144-HOUR COURSE BY INDENTURED APPRENTICES ON A GROUP OR INDIVIDUAL BASIS IS TO BE DIRECTED BY A QUALIFIED JOURNEYMAN OF THE TRADE. A LIST OF SUPPLEMENTARY INSTRUCTIONAL MATERIALS IS PROVIDED. TESTBOOKS AND FINAL EXAMINATIONS ARE AVAILABLE TO INSTRUCTORS. THIS DOCUMENT IS ALSO AVAILABLE FOR $2.25 FROM BUREAU OF INDUSTRIAL EDUCATION, CALIFORNIA STATE DEPARTMENT OF EDUCATION, 721 CAPITOL MALL, SACRAMENTO, CALIFORNIA 95814. "FLOOR COVERING, PART I -- RESILIENT COVERINGS," VT 002 784, IS ALSO AVAILABLE. (HC)

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WORKBOOK

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Part 2 CARPETING

CALIFORNIA STATE DEPARTMENT OF EDUCATION

MAX RAFFERTY - Superintendent of Public Instruction

Sacramento 1966

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TO: The ERIC Clearinghouse on Vocational and Technical Education
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WORKBOOK

Floor Covering

Part 2 CARPETING

Prepared Under the Direction of the
Bureau of Industrial Education

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Foreword

The apprenticeship programs offered in California are important phases of the total educational program for which the state is so well known. They are also unique phases of the total program, for they offer each participant opportunity to profit from paralleled and closely related learning experiences. One of these is to learn by actually working at one's chosen vocation under the direction and supervision of men who are both trained and experienced in the vocation. The other is to learn by attending classes in which all instruction is directed toward helping one to acquire the information and understanding he needs to perform on the job intelligently and with increasing proficiency and success.

The California State Department of Education has the responsibility for developing and making available the instructional materials that are used in the related training classes. It meets this responsibility primarily through the Bureau of Industrial Education.

Every effort is being made to produce instructional materials that are appropriate and adequate. These materials should be helpful to instructors in conducting their classes and to students in doing the required learning.

Max Rafferty

Superintendent of Public Instruction

Preface

The Bureau of Industrial Education has responsibility for making available the apprentice related instructional materials required for use in the training programs offered by the various trade groups in the state. The Bureau meets this responsibility by working cooperatively with employer-employee groups representing each of these trades in determining what materials are needed and in developing the materials.

This edition of Floor Covering, Part 2, was planned under the direction of the State Educational Advisory Committee for the Floor Covering Trade. The membership of the Joint Apprenticeship and Training Committee included the following:

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William W. McPherson, Chairman of the State Educational Advisory Committee, coordinated the work of the writers and served as a technical advisor to the Bureau of Industrial Education. Special thanks and appreciation are extended to Howard Olansky, Los Angeles, and Leif Narvesen of the American Carpet Institute of New York for their help and cooperation in making this publication possible.

DONALD E. KITCH
Acting Chief
Division of Instruction

RICHARD S. NELSON
Chief, Bureau of
Industrial Education

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UNIT A. Introduction to the Trade

TOPIC 1--HISTORY AND SCOPE OF THE TRADE

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- To what extent has carpet become a part of the American home?
- For how long a time has carpet served the needs and comfort of mankind?
- What effect did the Industrial Revolution have on the carpet craft?
- What effect does a poor installation have on the customer, the employer, and on the future of a carpet mechanic?

Floor covering of some kind is possibly as old as man. It is probable that animal skins adorned the floors of caves during prehistoric times, and rug weaving as we know it dates back thousands of years. Rugs made in the sixteenth century are still in existence. Today the carpet industry offers hundreds of styles, colors, weaves, textures, and fibers to meet the need for both practical and luxurious floor covering.

The development, manufacture, and distribution of carpet are no more important than the installation of the finished product; for it is the installation that determines the ultimate success or failure of the industry. A poor installation of the world's finest carpet will result in customer dissatisfaction and can nullify every attribute the product might have. The carpet mechanic must be constantly alert to the desires of the customer and be proficient enough in his trade to do a satisfactory installation job, one that is pleasing to the customer in every possible respect.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 1-4.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. Rugs and carpets are one and the same. 1. T F
2. Carpet weaving became mechanized in the eighteenth century. 2. T F
3. Marco Polo described the beauties of Persian rugs in the thirteenth century. 3. T F
4. The Moors introduced rug weaving into Europe in the early 700s. 4. T F
5. The first products of the rug weavers' looms in Europe were used as wall tapestries. 5. T F
6. The word "carpet" is derived from the Scandinavian verb "carpere." 6. T F
7. Eli Whitney invented the sewing machine in 1793. 7. T F
8. The Jacquard loom is called the "Spinning Jenny." 8. T F
9. Erastus Bigelow perfected the power loom in 1841. 9. T F
10. "Moquette" is another name for Axminster. 10. T F
11. Nearly 75 percent of all households in America use some kind of carpeting. 11. T F
12. The carpet business is rated considerably below the appliance and clothing industries in size. 12. T F
13. Carpet is not considered really "sold" until it is installed to the satisfaction of the customer. 13. T F
14. The carpet installer has many responsibilities which he must meet to be successful. 14. T F
15. The material in the assigned reference is intended primarily for the journeyman carpet layer. 15. T F

TOPIC 2--CUSTOMER AND EMPLOYER RELATIONS

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What part does salesmanship play in the installation of carpet?
- What is the importance of dress as far as the installer is concerned?
- How can the carpet installer promote good will for and confidence in his company?
- Why does public relations play such a major part in the carpet trade?

Good customer relations are an important part of a carpet installer's job, just as good employer relations are essential to success in the trade. To be competent and proficient at one's trade is a prime consideration for any craftsman, but even these attributes can be easily overshadowed by the inability of the workman to get along with those he works with and for.

Deficiencies in a finished job cannot and should not be overlooked simply because the workman has a pleasing personality; by the same token, good work often goes unappreciated if the relations between the workman and his employer or customer are strained.

How a workman dresses, how he talks and deports himself, and how he does his work are all part of one picture that both the customer and the employer will judge. To be a good mechanic is commendable--and certainly something not to be underrated--but it is not enough. To be a "good fellow" or to be clean and appropriately dressed are equally admirable traits. But, standing alone, none of these is enough. A workman, to be successful, should reflect all these qualities and should constantly strive to improve them. He will soon find that the impression he gives others will be influenced by his attitude. If he maintains a proper attitude toward his work, his fellow employees, and those with whom he comes in contact during his workday, his success as a craftsman, as an employee, and as a person will be practically assured.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 21-29.

Checkup

Decide what word belongs in each blank space so the statement will be complete and true. Then write the word at the right in the space correspondingly numbered.

1. A carpet mechanic's work is generally judged by two "bosses"; the ___1___ and the ___2___.
   1. __________
   2. __________

2. The carpet on any job is considered "sold" only after the carpet mechanic has completed a ___1___ installation.
   1. __________

3. A customer's good will and confidence are preserved by the proper observance of common-sense rules of ___1___.
   1. __________

4. The installer's work clothes should always be ___1___, ___2___, and in good condition.
   1. __________
   2. __________

5. It is essential that the installer show respect for the customer's ___1___ at all times.
   1. __________

6. An installer should play the part of a good salesman by restricting himself to ___1___ forms of discourse while on the ___2___ premises.
   1. __________
   2. __________

7. Never, under any circumstances, should an installer get into an ___1___ with the customer.
   1. __________

8. Conversation with the ___1___ should always be kept to a minimum.
   1. __________

9. The responsibility for correcting errors in measuring or cutting rests with the ___1___.
   1. __________

10. Differences of opinion on the job with fellow employees should always be discussed in ___1___; never in the presence of the ___2___.
    1. __________
    2. __________

11. The carpet mechanic's motto should be "Always ___1___ ___2___ after every job."
    1. __________
    2. __________

12. A carpet mechanic, no matter how skilled, should never be prejudiced to the point where he can ___1___ nothing ___2___ in the trade.
    1. __________
    2. __________

13. Quality workmanship, with careful attention to detail, will not go unnoticed by the ___1___ or the ___2___.
    1. __________
    2. __________

TOPIC 3--SAFE WORKING PRACTICES

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What are the two types of accidents to which the carpet layer is most susceptible?
- What are the three basic approaches to a sound accident prevention program?
- Who is fundamentally responsible for a "safe" job?
- What four things usually result in an "unsafe act"?

Safety is everybody's business, and safety on the job is as important to the employer as it should be to the workman. When we consider that accidents are generally caused by a combination of two things--an unsafe condition and an unsafe act--it becomes evident that most accidents can be avoided.

Many accidents that cause no injuries or damage occur daily. Under these circumstances it is natural for us to ignore these accidents as though they did not happen and concentrate on those that did have destructive results. If we do this, however, we are aiming only at the effect and not at the cause of accidents. It is therefore necessary for every workman to recognize and eliminate all unsafe conditions and avoid all unsafe acts before an accident occurs. Only in this way can the number of industrial accidents be reduced.

Related Information

Accidents are caused by people who:

- Do not know or do not care about safety
- Break rules if it's convenient to do so
- Resent being corrected after ignoring instructions on how to work safely
- Ignore good housekeeping and leave it to someone else
- Think horseplay is funny
- Are in too much of a hurry to observe safety precautions
- Do not realize it is easier to prevent an accident than report one
- Do not realize "little" hand tools can and do cause big injuries
- Have failed to learn that the most effective safety device is the built-in attitude of safety awareness developed through sincere effort and habit.

General Safety Precautions:

- First-aid. Have adequate first-aid material available. Take care of minor cuts and abrasions immediately, and see a doctor if required. Report all injuries, no matter how small, to your employer.
- Clothing. Wear proper work clothes. Shoes should be sturdy with heavy soles. Thin, worn soles offer little protection against sharp objects. Torn, bulky, or turned-up cuffs on pants or overalls are hazardous because they are likely to catch on a projection and cause a fall or other accident.
- Housekeeping. Keep walkways and work areas free from obstructions and debris. Keep tools in boxes. Pile material neatly out of the way.
- Personal protective equipment. Wear proper equipment for the job being done. Wear knee pads when kneeling for long periods or when working around sharp objects.
- Drinking water. Use only personal or throw-away drinking cups or glasses.
- Lifting. Know how to lift correctly. The human back is not a crane. Keep the back straight. Do the lifting with the leg and thigh muscles. Never attempt to lift any object that is obviously too heavy for one person to handle. Use power equipment when necessary.
- Hand tools. Hand tool injuries can be avoided by selecting the right tool for the job, making sure it is sharp and in good condition, using it in the correct way, and putting it in its proper place when not in use.
- Carpet stretching tools. Be sure all connections are properly made before using knee kickers or power stretchers. Many an improperly connected kicking head has caused a knee injury.

Assignment

Introduction to Apprenticeship, California State Department of Education, Unit A, Topic 5, pp. 31-41.

Construction Safety Orders, Division of Industrial Safety, California State Department of Industrial Relations, Articles 1 and 3.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. Most accidents are caused by an unsafe condition and an unsafe act. 1. T F

2. Employers are required to maintain accident prevention programs. 2. T F

3. Only foremen are permitted to remove safety devices and warning tags from shop equipment. 3. T F

4. A reasonable effort to ensure safety is the sole responsibility of the employer. 4. T F

5. In comparison to other crafts, the floor covering trade is one of the most hazardous. 5. T F

6. The best protection against electrical shock when using portable electrical tools is to wear rubber soles. 6. T F

7. The wearing of a hard hat on a construction job is not necessary for carpet men. 7. T F

8. It is generally agreed that accidents are caused; they are not simply the result of chance. 8. T F

9. In the construction trades the three most common types of accidents are electrical shock, falls, and burns. 9. T F

10. Proper grounding of electrical equipment is the best insurance against shock. 10. T F

UNIT B ▫ Materials of the Industry

TOPIC 1--CARPET CONSTRUCTION

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- In what standard widths is carpet made?
- What is meant by the term "broadloom"?
- What are the four basic carpet weaves?
- How can different carpet constructions be identified?
- How is carpet backing constructed, and of what material is it usually made?
- How many methods are there of carpet dyeing, and how do they differ from one another?

Carpet construction was once limited to four basic weaves in a relatively small variety of colors and patterns. An extremely wide range of fibers, colors, weaves, and patterns are now available to the buyer, so many, in fact, that to list them all would be a monumental task. Carpet widths, once limited to the familiar 3/4 and 4/4 carpet, are now made in 12 ft. , 15 ft., and 18 ft. broadloom, and some custom carpet can be manufactured in widths up to 30 ft.

The most popular weaves today are Axminster, Wilton, velvet, and the luxurious chenille, along with the tufted and knitted carpets, many of which use man-made fibers--nylon, acrylic, and rayon--as well as the "natural" fibers, cotton and wool.

Carpet backing, too, has changed. The backing is the foundation for the yarns that make up the carpet and that give it added strength and durability. Both tufted and woven carpets may have latex-coated backs, and some types are double-backed.

The carpet fibers themselves are dyed in a variety of ways, sometimes before spinning, sometimes afterwards. In some cases the carpet is dyed after weaving, and other times the yarn is dyed as soon as it is wound. All of these methods have their place and serve a special purpose. It is not really essential to the art of carpet laying for the mechanic to know the varied methods employed, but he should be able to answer customers' questions with some sense of authority.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 30-45.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. Tufting, a process of carpet manufacturing, is based on the principle of the sewing machine. 1. T F

2. Tufted carpets are not woven; hence, they should not be included within the term "weaves." 2. T F

3. Tufted carpets are sometimes made with a backing of cotton canvas. 3. T F

4. Tufted carpets can be identified by the rows of tufts running widthwise across the carpet backing. 4. T F

5. In most of the velvet weaves, the pile is short, with cut loops. 5. T F

6. Most Wiltons are made in solid color. 6. T F

7. Axminsters are made in a wide variety of patterns. 7. T F

8. Most Axminsters have a cut pile. 8. T F

9. Axminster carpet can be rolled only lengthwise because of the stiff weft shots running across the width. 9. T F

10. Since it can be woven in any pattern, color, shape, size, and design, chenille is often "custom-made." 10. T F

11. Chenille is a luxury item that is rich, heavy, and long-lasting. 11. T F

12. In carpet construction, wool fibers are used because they have excellent resiliency. 12. T F

13. Carpets of cotton fiber construction are generally soft and very resilient. 13. T F

14. Soft man-made fibers used in carpet construction are nylon, acrylic, and rayon. 14. T F

15. Acrylic fibers have contributed much to carpet durability and warmth, but they lack resiliency. 15. T F

16. Kraftcord, made from wood pulp, is used for carpet backing. 16. T F

17. Rayon, cotton, and jute are three materials used in backing. 17. T F

18. A heavy coat of latex on backing is referred to as "double-backed." 18. T F

19. Latex seals the tufts to the backing of the tufted carpet. 19. T F

20. Backing yarns are made of various fibers to increase the strength of the finished product. 20. T F

21. In the "raw-stock dyeing" method, fibers are dyed in bulk form before they are spun. 21. T F

22. The dyeing of skeins of yarn after spinning, but before weaving, is called "skein dyeing." 22. T F

23. Solution dyeing is called "wet dyeing." 23. T F

24. "Package dyeing" is done after the carpet is woven. 24. T F

25. One method of dyeing after weaving is called "piece dyeing." 25. T F

TOPIC 2--PADDING

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What is carpet padding and from what is it made?
- How many functions are served by carpet padding?
- Why is an interliner sometimes used with padding?
- How does one determine the correct padding for a particular carpet?

Carpet padding serves many purposes. Long considered essential in any carpet installation, padding (which is alternately called underlay, cushion, and lining) prolongs the life of a carpet, adds to walking comfort, and lends to the carpet a certain feeling of "luxury." It also makes the vacuuming of the carpet more effective and provides an extra layer of insulation against the floor.

Padding is made of different materials and in different weights. It may be made of foam rubber, animal hair, or a combination of materials. But no one type of padding can be considered "best" for all carpets or all installations. The carpet manufacturer can generally advise what kind of padding is best for a particular carpet over a particular type of floor.

Customer preference also influences choice; some customers prefer thick, cushiony padding; others like a firmer feel to their carpet. Cost is another factor the customer considers. The difference in cost between the most economical and the most expensive padding may be a nominal figure compared with the price of the carpet itself; yet this sometimes serves as the deciding factor with a buyer. Some customers insist on all-hair padding; others cannot use it because of allergy problems and must, instead, use rubber.

To a large measure, however, customers are unaware of the differences in padding and show little interest in it. It is then up to the carpet salesman or estimator to make this decision, one that should always be made in the best interest of the customer. A poor quality padding, or one that is poorly installed, can ruin an otherwise good carpet installation and damage the carpet, as well. It is recommended that the choice and the installation of padding be given the same thoughtful consideration and meticulous workmanship that is afforded the carpet.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 96-99.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. The material known as "padding" or "lining" serves as a foundation or cushion for most carpet installations. 1. T F

2. One function of a carpet pad or cushion is to soften the shock of walking. 2. T F

3. Carpet padding helps compensate for any unevenness in the floor. 3. T F

4. It is unnecessary to use padding under thick carpet. 4. T F

5. "All hair" padding is made from hair of various wild animals. 5. T F

6. Padding increases the sound-absorbing qualities of carpet. 6. T F

7. "Combination" padding is made of felted animal hair on a layer of sponge rubber. 7. T F

8. Jute is used as a material to manufacture padding. 8. T F

9. Burlap is sometimes used as an interliner. 9. T F

10. Cotton sheeting is sometimes used as an interliner. 10. T F

11. Pre-cut and bound rug cushions are available in 9x12 and 9x15 ft. sizes only. 11. T F

12. One way of classifying padding is by weight per square yard. 12. T F

13. Rug-size cushions are usually cut 1 in. shorter and 1 in. narrower than the measurements of the rug. 13. T F

14. Padding with a "waffle" side should always be installed with the waffle side down. 14. T F

15. On most jobs it is correct to install padding with the waffle side either up or down. 15. T F

16. The waffle-side-down method of installing padding prevents soft-back, solid-color carpet from forming an imprint of the tread design of the padding. 16. T F

17. When using combination padding, the hair surface, rather than the jute, should be in contact with the back of the carpet. 17. T F

18. Combination padding is made of 90 percent hair and 10 percent jute. 18. T F

19. Combination padding is made in only one proportion: 50 percent hair and 50 percent jute. 19. T F

20. Roll-size carpet padding, regardless of width, measures 100 ft. in length. 20. T F

TOPIC 3--FASTENERS

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What kind of fasteners are commonly used in carpet installations?
- What is tackless strip and how is it used?
- What method is generally used when installing carpet on a concrete floor?
- What type of fastener can be used on carpet when easy removability is desired?

A major item in the carpet trade is the fastening of carpet. Fastening devices, to use a general term, come in a variety of forms to meet a variety of needs. In fastening padding, for example, an installer may use tacks, staples, padding cement, or linoleum paste. For special padding problems, such as sometimes exist when the pad is pieced, tape may be used to hold the padding in place and prevent "bunching."

A great number of products are available for fastening carpet. Perhaps the installer will use the conventional tacking method, in some instances using tacking strips on difficult surfaces. Tackless strip is now widely used, both on residential and commercial jobs, and its use results in an especially neat installation, devoid of any outward evidence of fastening. Tackless strip (which should not be confused with "tacking" strip) was introduced in 1938, and this method is now employed on the majority of carpet installations. It can be used in a variety of forms over almost any type of floor, and may be nailed in place around the perimeter of a room or fastened by special adhesive, a method sometimes required when nails cannot be used.

Adhesives may also be used alone to secure carpet, or with various kinds of tape. In addition, the "pin and plug" method or one of its variations is used to fasten carpet in an area where no other method is practical.

Binder bars are also used, usually on commercial jobs, where the carpet meets another type of floor covering in an open area. These bars are especially valuable on "free form" installations where a neat-appearing job can be done, even with irregular edges and wide, flowing lines.

New products for fastening carpet are being introduced daily, and the installer who wants to prosper with the industry will learn all he can about new devices, materials, and methods as they are introduced to the trade.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 102-17, 141-42, 179-80, and 226-27.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1.	Automatic stapling hammers are used to drive staples that secure padding to wooden floors.	1.	T	F
2.	Tacks, staples, or linoleum paste can be used to anchor padding.	2.	T	F
3.	Staples cannot be used to anchor padding over concrete.	3.	T	F
4.	Staples can sometimes be used to anchor padding on asphalt tile laid over concrete.	4.	T	F
5.	Linoleum paste cannot be used on concrete floors.	5.	T	F
6.	In general, tackless strip is made of 1/2 in. 3-ply plywood.	6.	T	F
7.	Tackless strip is usually made of Douglas fir.	7.	T	F
8.	Tackless strip has two rows of steel pins set at a 45-degree angle.	8.	T	F
9.	"Smoothedge" tackless carpet gripper, manufactured by Roberts, is made in 5 ft. lengths.	9.	T	F
10.	Roberts Company makes two forms of tackless strip; one form has prestarted nails for wooden floors, and the other has prestarted nails for concrete floors.	10.	T	F
11.	"Smoothedge" strip with prestarted nails for wooden floors is called the "standard" form.	11.	T	F
12.	All forms of "Smoothedge" are available in four types, each designed for various combinations of carpet backs and padding weights.	12.	T	F
13.	"Smoothedge" type A and type B tackless strip are designed for regular padding weight (up to 40 oz.).	13.	T	F
14.	"Smoothedge" type A tackless strip is designed to hold heavy carpet.	14.	T	F

15. The Ankorite tool is used to secure tackless on terazzo, brick, and marble floors. 15. T F

16. Plywood tacking strips are prenailed wooden strips for tackless installations around fireplaces. 16. T F

17. Tacking strip is usually anchored on concrete floors with concrete nails. 17. T F

18. A "PM" bracket, which fastens to the wall rather than the floor, can be used on "problem" floors. 18. T F

19. Where removability of the carpet is required, "Velcro" or other fastening tapes are recommended. 19. T F

20. Carpet binder bars are used at doorways and on carpet edges in "free form" areas. 20. T F

UNIT C▫ Tools of the Trade

TOPIC 1--HAND TOOLS

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What kinds of tools should the carpet installer carry with him on his jobs?
- What are the first tools the apprentice should acquire?
- What hand tools are usually supplied by the employer?
- Why should an installer purchase special tools made and recommended by certain carpet manufacturers?

Correct care of the tools of the trade is the first step to craftsmanship. A systematic arrangement of the right tools in a tool box of adequate size and practical design curtails loss and allows easy access. Tool checkup and cleanup periods should be a definite part of the daily schedule. Tools are personal--every mechanic should carry his own and avoid the distasteful task of borrowing from others. In most cases, a mechanic can be judged pretty well by the tools he carries and the way he maintains them.

Related Information

The major tools used in the carpet trade and their uses or features are as follows:

1. Burling shears	Sewing nap back into carpet
2. Large cutting shears	Cutting pad and carpet
3. Serrated-edge shears	Prevents pad edge from fraying
4. Napping shears	Trimming nap at seams
5. Pad knife	For all padding except sponge
6. Carpet hook knife	Cutting carpet
7. Loop pile cutter	Cutting loop pile carpeting
8. Utility knife	Changeable blades--eliminates sharpening
9. Smoothedge trimmer	Cutting carpet at wall line on tackless installation
10. Back cutter	Cutting carpet off roll

11.	Strip cutter	Cutting tackless strip
12.	Cushionlok cutter	Cutting sponge-bonded carpet
13.	Sharpening stone	For good cutting edges
14.	Hacksaw and miter box	Cutting heavy door metals
15.	Magnetic tack hammer	Driving tacks and small nails
16.	Tack hammer	Driving tacks and small nails
17.	Carpenter's claw hammer	Driving large nails, concrete nails, and hammering the stair stool
18.	Rubber mallet	For quiet installation with stair stool and securing binder bars without denting
19.	Stapling machine	Fastening lining on wood floors
20.	Base shoe remover	General prying duties
21.	Porcupine roller	Improves adhesion between carpet and pin tape
22.	Pliers	Turning, cutting, and pulling
23.	Pipe wrench	Removing and tightening pipes and couplings
24.	Tweezers	Pulling catcher threads and damaged tufts
25.	Screwdrivers	Driving and removing screws
26.	Notched spreader	Spreading paste and holding carpet at wall during stretch
27.	Putty knife	Spreading strip cement
28.	Needles	Sewing carpet seams
29.	Awls	Scoring back and lifting secured carpet off pins
30.	Metal punches	Centering and removing hinge pins
31.	Ankorite tool	Securing carpet in doorways with concealed pins
32.	50 ft. metallic fiber cloth tape	Measuring rooms and materials
33.	12 ft. metal tape	Measuring rooms and materials
34.	6 ft. metal tape	General measuring work
35.	6 ft. folding rule	Measuring in limited spaces
36.	Carpenter's square	Layout work
37.	Chalklines	Aligning long seams
38.	Knee kicker	Achieving uniform stretch in concentrated area
39.	Crab	Stretching carpet in halls
40.	Suitcase	Storage of tools and equipment
41.	Chest with drawers	Storage of tools and parts

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 88-95, 111-16, and 119-29.

Checkup

In the first column is a list of functions of various hand tools, preceded by a letter. In the adjacent column are listed hand tools by name, each one followed by a number. Match each tool with its function by writing the appropriate letter after each number.

(a) Spreading of strip cement
(b) Measuring difficult-to-reach areas
(c) Cutting tackless strip
(d) Layout and estimating
(e) Cutting loop pile carpet
(f) Laying out carpet before cutting
(g) Fastening padding to wood floor
(h) Cutting padding
(i) Cutting carpet at wall line on tackless installations
(j) Securing binder bars without denting
(k) Lifting secured carpet off pins
(l) Removing or holding catcher threads and damaged tufts
(m) Holding carpet in place at wall during stretch
(n) Achieving uniform stretch in concentrated area
(o) Cutting z-bar metal
(p) Removing door pins
(q) Cutting sponge-bonded carpet
(r) Cutting carpet off roll

Smoothedge trimmer 1. ______
Rubber mallet 2. ______
Knee kicker 3. ______
Tweezers 4. ______
Staple hammer 5. ______
Chalkline and reel 6. ______
Nail set 7. ______
50 ft. tape 8. ______
Strip cutter 9. ______
Putty knife 10. ______
Small steel tape 11. ______
Cushionlok cutter 12. ______
Back cutter 13. ______
Loop pile cutter 14. ______
Tin snips 15. ______

TOPIC 2--MACHINERY AND EQUIPMENT

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- How important on the job is the power stretcher?
- What equipment is used only in the workroom, never on the job?
- What is "Cold Pack Canner," and why is it used?
- How does a "railway" sewing machine differ from a "hurdy-gurdy"?

The machinery and equipment of the well-equipped carpet workroom represents a large investment on the part of the employer. It is the duty of each carpet mechanic to care for this equipment as if it were his own. Although the operation of some of this equipment is usually assigned to women in the industry, it is still desirable for the journeyman of the trade to familiarize himself with the use, care, and safety practices applicable to this equipment. The machinery provided, if used properly, will save much time and labor both in the shop and on the job.

Related Information

Special machinery and equipment generally used in the carpet trades and their uses are as follows:

1. Trucks	For transportation of men and materials
2. Electric carpet saw	Cutting rugs, yardage, and padding in shop
3. Binding machines	Applying binding tape to the edges of rugs in the shop.
4. Vacuum cleaner	Cleaning up the finished job
5. Pile lifter	Vacuum used to raise the pile on heavy carpet
6. Serging machine	Applies a tight mesh lock stitch around the edges of a rug to prevent it from raveling
7. Track sewing machine	Sews strips of 3/4 or 4/4 carpet together
8. Fork lift	Moving heavy rolls of carpet at shop
9. Masonry drill	Drills holes in concrete. High- and low-speed operation
10. Power nailer	Nails tackless strip
11. Dollies and hand trucks	Handling materials in shop and on the job
12. Cutting floor	Wooden floor in shop where carpet is laid out and cut for jobs. It is also used to size rugs

13. Stay staple hammer	For temporary fastening of carpet
14. Pulley and line	For handling heavy rolls, usually at job site
15. Power stretcher	Stretches carpet during installation
16. Sand bags and linoleum roller	Weighting seams
17. Hurdy-gurdy	Hand operated sewing machine for carpet
18. 6 ft. straightedge	Cutting straight seams
19. Butt board	Fits between wall and abutment block on power stretcher to prevent damage to wall
20. Planks	For stretching extra long lengths of carpet
21. Stud driver	Secures tackless strip to concrete by means of nonprojectile cartridge

Assignment

Duffin, D. J., *The Essentials of Modern Carpet Installation*, pp. 55-56, 60-62, and 122-26.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. The stud driver employs an explosive type cartridge similar to that used in a firearm. — 1. T F
2. Regular concrete nails are used with the stud driver. — 2. T F
3. The "track" or "railway" sewing machine is built in sections and can be extended up to 125 ft. — 3. T F
4. Carpet sewing machines are always electrically operated. — 4. T F
5. Binding may be done in one operation by machine. — 5. T F
6. The old hurdy-gurdy has now become obsolete. — 6. T F
7. The portable electric carpet cutter, when used to cut from the face of the carpet, should be held up to prevent cutting the floor beneath. — 7. T F
8. The knee kicker and power stretcher are designed so they cannot possibly injure the carpet. — 8. T F
9. It is advisable to use a butt board between the stretcher and the wall. — 9. T F

10. A low-speed masonry drill is useful for anchoring screw-down door metals in concrete. **10. T F**

UNIT D. Carpet Preparation

TOPIC 1--MEASURING AND SKETCHING

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- Why are accurate sketch measurements needed, and who is responsible for these?
- What is the accepted technique of making drawings for estimating?
- How should room measurements be indicated on a sketch?
- What is the best way of measuring and sketching "irregular" shaped rooms?
- When is the use of a template of particular value?

The measuring and sketching of rooms for residential or commercial carpet installations is one facet of the trade most often overlooked. It is a task that all journeymen should know how to perform.

Just how long it takes a carpet mechanic to "graduate" to this level of work depends on his own skills and the judgment of his workroom manager.

This topic covers the fundamentals and techniques of measuring and sketching regular and irregular shaped rooms, including circular, oval, and elliptical shapes.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 268-88.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. A 6 ft. folding rule is the most important tool used in measuring for carpet. 1. T F

2. When measuring and sketching a room, the measureman should always draw the first sketch to scale. 2. T F

3. Broken and running (cumulative) measurements are two methods used in measuring rooms. 3. T F

4. The Pythagorean theorem is used to check the squareness of a room. 4. T F

5. When measuring an entire house, the measureman should always sketch each room on a separate piece of paper. 5. T F

6. When measuring a room, the measureman does not have to show the location of doors. 6. T F

7. A template is required to measure any irregular room. 7. T F

8. A separate drawing of every floor to be carpeted is essential for accuracy. 8. T F

9. A room with no parallel walls is difficult to measure. 9. T F

10. A chalk line is a necessary tool for measuring. 10. T F

11. It is always necessary to check clearances under doors. 11. T F

12. A room should always be checked for "squareness" prior to measuring. 12. T F

13. A template may be used for very intricate room sections. 13. T F

14. It is not necessary to indicate floor conditions on a room or floor diagram. 14. T F

15. The main entrance of a room should always be noted on a diagram. 15. T F

TOPIC 2--ESTIMATING AND PLANNING

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What is the reason for making scale drawings of rooms to be carpeted?
- What procedures are followed in determining total yardage?
- When estimating a job, is it necessary to first determine where carpet seams will occur?
- Is it possible to estimate accurately the total yardage for a room of irregular, elliptical, or oval shape?
- How does pile lay enter into the planning of a carpet job?

Estimating and planning, though related to measuring and sketching, is a separate phase of the carpet installer's education. Today, relatively few installers possess the high degree of skill and accuracy necessary to perform this specialized job.

The layout of a carpet job is influenced by many factors, including the lay of the pile and the number of seams required. Not the least of the considerations is economy in cutting.

Whether estimating one room or a series of rooms, the estimator must prevent as much wastage as possible. If the floor plan has many irregularities, a scale drawing will be of assistance to the estimator in computing the yardage.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 289-95.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. Measuring and sketching is the same as estimating and planning. 1. T F

2. Estimating and planning is the all-important step between measuring and laying the carpet. 2. T F

3. Time and care in estimating and planning will save time, money, and trouble later on. 3. T F

4. A scale drawing is sometimes necessary. 4. T F

5. A scale drawing is a sketch or plan drawn with a straightedge; the drawing does not have to be exactly proportioned to the original object in all respects. 5. T F

6. Scale drawings are helpful in the reuse of waste material before any cutting is done. 6. T F

7. An architect's scale is a six-faced ruler with a triangular cross section. 7. T F

8. The location of carpet seams is of little importance. 8. T F

9. When 27 in. carpet is used on commercial work, the seams should run with the traffic. 9. T F

10. "Pile lay" is the direction the pile leans. 10. T F

11. When you look "into" the pile, the carpet appears to be lighter in color. 11. T F

12. Most carpets have a marker thread woven on the right hand side of the back to aid in determining the direction of pile. 12. T F

13. Consulting the customer on which direction the pile should run is not recommended. 13. T F

14. On stairways, the pile should lean toward the "down" direction. 14. T F

15. Carpets with dense pile surfaces wear best on stairs. 15. T F

TOPIC 3--PATTERN MATCHING

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- In what ways does the pattern of a carpet determine its layout?
- What is the difference between a "set match" and a "drop match"?
- What is a "running repeat" in pattern matching?
- How does the width of a repeat govern the type of match to be used?

Although carpet is made in many widths, seams are still required on most jobs. The location of seams is determined by many factors--traffic considerations, general appearance, pile lay, and pattern matching. All of these factors must be considered in the light of economy in cutting.

When working with patterned carpet, the estimator may use several different methods to estimate a job, depending on what design is involved--set match, drop match, quarter-drop match, or running match. Pattern matching can be of major importance on large commercial jobs where extensive floor areas are involved.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 150-60 and 295-304.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. Marker threads may be used in matching carpet pattern. 1. T F

2. In patterned carpet, the top of the pattern should always be toward the top of stairs. 2. T F

3. The distance along the length of carpet between two identical figures is called the "repeat" of the pattern. 3. T F

4. A set match is complete in itself and matches automatically when cut on the repeat. 4. T F

5. A drop match creates a diagonal pattern. 5. T F

6. A running match is a pattern that matches on the selvage diagonally opposite in one-half the length of a full repeat. 6. T F

7. Drop match patterns are cut on the full repeat in succession, which creates a diagonal pattern. 7. T F

8. Quarter-drop patterns consist of four blocks and drop one block with each cut; therefore, this pattern should be cut the same as a drop pattern. 8. T F

9. A "running repeat" is the repeat of the pattern across the width of the carpet. 9. T F

10. The matching of a design when one breadth is laid beside another is called a side-match. 10. T F

TOPIC 4--HAND AND MACHINE SEAMING

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What is considered to be the fastest method of seaming?
- Which carpet is normally machine-seamed; which is not?
- What is "pole stitching," and when is it used?
- What are the major disadvantages of machine stitching?
- When is liquid latex used on seams and for what purpose?
- What are the most common stitches used in hand seaming?

Carpet sewing has always been an important part of the trade, even though the extensive use of broadloom has eliminated or drastically reduced the need for seams on many installations. For the most part, however, while broadloom is popular for residential installations, the narrower commercial carpets are still widely used elsewhere. But whether seaming is done on 27 in. carpet or 15 ft. broadloom, by machine or by hand, the basic requirements remain the same--the seams should be neat, accurate, and as invisible as possible. Where an invisible seam is not attainable, it should at least be inconspicuous.

Sewing machines for carpet may be electrically or hand operated and may be the large "track" type used in shops, or the small, portable units that are convenient to use on the job site. Each machine requires certain operating techniques, and many different kinds of stitches are used in hand sewing, depending on the type of material being seamed, the kind of seams desired, and the conditions under which the work must be done.

Related Information

"Track" or "Railway" Machine Seaming. Track seaming is probably the fastest kind of seaming, although the resultant seam is not as flat nor as inconspicuous as is the case with hand sewing. In addition, it is not practical to machine sew broadloom, owing to its size and weight; nor is machine sewing recommended for carpet with double backs or without selvage edges. Because of these limitations, most machine sewing on track-type devices is restricted to 3/4 (27 in.) and 4/4 (36 in.) carpet.

The procedure for seaming on a track machine is generally as follows:
The carpet is placed in special clamps on the machine, with special attention given to the proper matching of the pattern and the direction of the pile lay (the sewing should always be done in the direction of the lay). Special guides, provided on the machine, should be selected with care, along with proper

tension for the material being seamed. If after setting up and starting the sewing the carpet mechanic finds that the sewing head labors and moves with difficulty along the carpet edge, he should apply paraffin to the back surfaces of the carpet. This should improve the sewing rate, which is for most track machines approximately 5-1/2 yd. per minute.

Hand Operated Machines. The most popular hand machine currently used is the "hurdy-gurdy," so called because the sewing is done by the operator turning a crank. This machine is portable and easily set up on most jobs. The carpet to be seamed is held by clamps between two posts and drawn taut. The machine is then placed "over" the carpet and operated along the top edge. As with the track machine, the seams made on the hurdy-gurdy are neither completely flat nor invisible, so these machines are not recommended for residential installations.

Hand Seaming. Many different stitches are used in hand sewing. The two most common are the overcast stitch and the cross stitch, both of which are done from the back of the carpet.

The overcast stitch is done by slightly "peaking" the carpet and pushing the needle through at such an angle that the carpet nap is not pulled down. The stitches are placed no further than 1/2 in. apart, and the depth of the stitches depends on the material.

The cross stitch is similar to the overcast, except that the stitches are about 1 in. apart, as they cross the seam diagonally running in one direction. On the return, sewing in the other direction, the needle is pushed through the carpet halfway between the original stitches, resulting in the second stitch crossing the first all the length of the seam.

With either of these stitches, a liquid latex is sometimes applied to the finished seam to "lock" the stitches in place and provide additional strength.

Top Seams. In seaming from the top, the carpet is placed face up with edges together and is sewn with a curved needle. The easiest stitch to use for top seaming is the overcast, but the stitching is done in a reverse fashion from that used when done from the back. The thread is started from the back (so the knot will not show) and then brought straight across the seam. The needle is then inserted at that point, angled across the seam on the underside, and brought to the top again. This action is repeated throughout the length of the seam. In this way all of the stitches on the top are straight across the carpet seam, and all the back stitches are at an angle to the seam.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 60-70.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. A track machine is the best device for seaming because the seams so made are almost invisible. 1. T F
2. All hand seaming is done from the back of the carpet. 2. T F
3. The selvage edge should always be trimmed off before seaming. 3. T F
4. Stitches should be drawn snug to assure a good seam. 4. T F
5. Top seaming is preferred over most other methods. 5. T F
6. Latex should always be applied after sewing to assure a strong, lasting seam. 6. T F
7. Set marks are necessary when seaming match pattern goods from the back. 7. T F
8. The correct method of seaming on each job is usually left to the discretion of the mechanic. 8. T F
9. A slight overlap of carpet when seaming makes little or no difference to the finished product. 9. T F
10. The advantages of a track machine are its great speed and ability to sew durable seams on all carpets. 10. T F
11. The popularity of broadloom has eliminated the need for seams on most commercial jobs. 11. T F
12. Cross stitching and overcast stitching are identical except that one is used only for top seams. 12. T F
13. A "hurdy-gurdy" is a small portable sewing machine for use on the job site or in the workroom. 13. T F
14. Cross stitching may be used to make a flat seam on a pole. 14. T F
15. An "invisible stitch" is one that can be seen neither from the face nor the back of the carpet. 15. T F
16. A straight needle is used on a buttonhole stitch. 16. T F
17. When sewing on a track machine, the operator must make sure the pile lay always faces the machine head. 17. T F

18. Track machines may be operated either electrically or by hand. 18. T F

19. Hand sewing of tufted carpets is generally recommended. 19. T F

20. Machine sewing of 3/4 and 4/4 carpet is common practice. 20. T F

TOPIC 5--TAPE BINDING AND SEAMING

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- Why is serging sometimes preferred to binding?
- Is carpet binding usually done by hand or by machine?
- What is a "blind stitch" machine, and how is it used?
- When was the adhesive system of tape seaming first introduced in the trade?
- What are the advantages of taped seams over sewn seams?
- How do taped back seams and taped face seams differ, and when is each used?

Carpet binding may be done by hand or by machine and may be a sewing or an adhesive process. Regardless of the process used, however, the reason for binding a carpet is the same--to prevent the raveling of a carpet edge. Carpet binding is done both in the workroom and on the job; in either case, neatness is of paramount importance,and the special techniques used must be learned by the carpet mechanic.

Related Information

Just as adhesive-applied tape has proven successful for carpet binding, so too has the use of tape for "stitchless seaming." Recent improvements in tapes, adhesives, and methods of application have resulted in tape seams being superior in many respects to sewn seams.

Taped back seams are usually made in the carpet workrooms; taped face seams are made on the job. One of the advantages to be found in taped face seams is that the installer can see what the seam looks like from the top as he makes it. Once the carpet has been seamed in this way, it requires no rehandling, a distinct advantage over the taped back seam where the carpet must be flipped over after the seaming has been completed.

Seam tape is soft-woven of the highest quality virgin nylon, combined with a high percentage of cordura for long life. This tape is ideal for use on lightweight contract commercial carpet. Because of its unique basket-type weave and flat, ribbon-like cord, seam tape makes an especially strong, durable, and unyielding bond.

Different materials (tapes and adhesives) require different techniques, and it is the responsibility of the carpet mechanic to keep up with the newest developments and learn new methods of taping as they are adopted by the trade.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 55-60 and 70-87.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. Serging is done on a track sewing machine. 1. T F

2. Serging is more economical than binding. 2. T F

3. The porcupine roller is used to dress up seams. 3. T F

4. Kwik-Sealz, Rug-Sealz, and Kwik-Grip are all materials used in tape seaming. 4. T F

5. Face seams are made when carpet is being installed and when it is not possible to make back seams. 5. T F

6. When a carpet made from 27-in. widths (or from two widths of broadloom) is required to meet a set of dimensions exactly, it can be shrunk to size after seaming. 6. T F

7. The seaming of carpet by means of "gluing" the edges together rather than sewing, using prepared tapes and adhesives, was introduced in the 1940's. 7. T F

8. The new types of sizing used in today's carpet backs are relatively soft. 8. T F

9. An advantage of taped seams is that they make possible the seaming of the carpet from the top, or face. 9. T F

10. Despite advantages of taped seams, the majority of all installations today, commercial as well as residential, are sewn. 10. T F

11. An ideal tape adhesive would be one that is slow-drying. 11. T F

12. Taped back seams are usually made in the workrooms from sketches or plans. 12. T F

13. A properly made back seam, between two pieces of carpet of the same color and texture, will be practically invisible. 13. T F

14. The drying time for face seams varies according to the grade of carpet and the drying conditions. 14. T F

15. Generally speaking, sewing seams is a faster process than taping,at least when done in the workroom. 15. T F

16. It is generally conceded that taped seams are superior to sewn seams. 16. T F

17. A taped face seam, when done on the job site, is rarely as good in appearance as a taped back seam. 17. T F

18. If it is not possible to work from the back of a carpet on the job site, it is better to have all the seams made in the shop. 18. T F

19. Drying time for back seams varies according to the grade of carpet being installed. 19. T F

20. When seaming conventional carpet by the taped face seam method, it is desirable to precoat the seam areas first. 20. T F

TOPIC 6--HANDLING MATERIALS

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What is the principal operation carried on in a carpet workroom?
- To what extent does color match affect cutting?
- Why is it necessary to consider shading differences, how do they occur, and what is the remedy?
- What is normally used to shrink carpet, and how is it done?

The unprecedented expansion of the carpet industry during the past few years has brought with it many new products, processes, and techniques. Currently, dozens of carpet types are on the market; whereas only a few years ago, only four major kinds of carpet predominated--Axminster, Wilton, velvet, and chenille. General rules for carpet handling are, therefore, difficult, if not impossible, to formulate. Each type of carpet requires individual attention and treatment both in the workroom and on the job.

In the shop or workroom, the carpet is cut, seamed, bundled, and sometimes shrunk. A well-equipped workroom, large enough to accommodate the broadloom, is essential to good work. Although all unnecessary work should be avoided in the shop (that is, work that could be done better on the job), it is still necessary to make sure all the required preparatory work is done, and done correctly. Finished work should come out of the workroom bundled, marked, and checked for accuracy against the job sheet or work order. It is also important to see that all necessary materials are sent to a job with the carpet: padding, cement, nails, special tools, and the waste carpet from the cutting room.

Once on the job, the carpet mechanic should have everything at hand he needs to perform his work in an efficient manner. He should avoid running back to the shop for forgotten items. Adequate preparation is the keynote here; for it will make completion of the job much faster, easier, and more satisfactory.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 49-55, 70, and 169-70.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. One of the principal operations in the workroom is cutting. 1. T F
2. If possible, the cutting floor should be large enough to allow the broadest carpet to be rolled out and measured with one stretch of the tape. 2. T F
3. The color match of all materials should be considered before cutting. 3. T F
4. The best type of cutting floor is made of pine. 4. T F
5. Shading differences sometimes occur on the inside portions of the carpet roll. 5. T F
6. It is recommended that before beginning work on any material, the order or job ticket should be checked for the correct identification of material to be cut. 6. T F
7. Each type of carpet requires individual treatment. 7. T F
8. Wilton carpet can safely be cut on the "shots." 8. T F
9. Scrim backs, patent backs, and latex-backed carpets have to be chalk-lined and straightedged before cutting. 9. T F
10. Tufted and knitted carpets require no special method of cutting. 10. T F
11. Carpets heavily coated with a latex compound may sometimes require application of a softening preparation. 11. T F
12. The cutter should check the net width of the carpet before cutting. 12. T F
13. All bundles should be marked to save time on the job. 13. T F
14. An added precaution before shipment is to see that all usable waste pieces are included in the material going to the job site. 14. T F
15. The minimum size for a cutting floor should be 20 ft. square. 15. T F
16. Water should be used to shrink carpet. 16. T F

17. Detergent must never be used when carpet is being shrunk. 17. T F

18. Shears should be used for cutting carpet on most jobs. 18. T F

19. Broadloom carpet should be sewn in the shop to save time on the job. 19. T F

20. When two or more breadths of carpet with designs or figures are to be sewn together, the match should first be checked. 20. T F

UNIT E. Carpet Installation

TOPIC 1--FLOOR PREPARATION

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- Why has floor preparation for carpet laying taken on new importance in recent years?
- What new carpet types make installation especially critical in respect to floor conditions?
- For all practical purposes, what two kinds of floors are covered with carpet, and how does the preparation of each one differ?
- What are the two main kinds of construction in wood floors?
- How can a cement floor be "filled," and what materials and techniques are involved?

Proper floor preparation is considered by those in the carpet trade one of the most important and most technical aspects of carpet laying. Today, more than ever, it is essential that the surface upon which carpet and padding is to be laid is in the best possible condition.

The procedures for preparing floors for covering change frequently, since many new carpet types require that floors be prepared in a particular fashion. Time was when the installer could depend on the carpet flowing over slight surface imperfections, and he did not have to worry about the carpet "reflecting" these faults later on. But not all today's carpets have this advantage.

Carpet products such as rubber-backed, glue-down, and various types of vinyl demand a smooth surface capable of accepting thin coverings and new adhesive processes.

Few general instructions on floor preparation can be given because a procedure that is considered proper today might prove inadequate tomorrow.

Related Information

Wood Floors. Wood floors may be grouped into two main categories--sheeting and plank type (strip). The sheet type of floor is usually installed in an ashlar pattern, with the sheets usually being 4 ft. by 8 ft. Other sizes may be used, such as 3 ft. x 3 ft., 3 ft. x 4 ft., and 4 ft. x 4 ft. Most wood floors are installed over a diagonal subfloor construction, although wood sheeting is sometimes installed over stringers which may vary from 12 in. to 48 in. on-center.

Some wood sheeting is designed especially for floor application, including tongue-and-groove design, and some in a thickness required to eliminate the need for additional subflooring.

Plank or strip types may be found in any one of several sizes and kinds of wood, and may be tongue-and-groove or butt joint. The wood may be soft pine (usually reserved for floors that are to be covered) or a hardwood, such as oak. Thickness may vary from 3/8 in. to 13/16 in., and widths will run anywhere from 1 in. to 12 in. Plank or strip flooring is normally installed over diagonal subflooring.

Preparing a strip floor can be difficult, depending on the extent of its deficiencies. A strip floor that squeaks, or moves up and down when walked upon, presents a problem that is generally difficult to solve. In some cases, nailing the loose strips will correct the trouble, but usually the entire floor has to be renailed. Movement in the subfloor must also be prevented, and this requires nailing through the full thickness of the diagonal subfloor with cement-coated, ring-groove, or screw-type nails.

Another common problem found with strip floors is "cupping," a condition usually requiring corrective action, since the carpet will often follow, or "reflect" the surface to the extent that unevenness will not only be visible but can be felt underfoot. It is usually necessary to refinish such a floor with a power sander, following which the wood may be sealed. (A 50/50 mixture of alcohol and shellac, applied with a flat trowel, will usually do the job.) If there is any question whether a sealing job should be done, the job specifications should be checked, or the shop foreman or other authorized person should be consulted.

In some cases the condition of a strip floor is such that repair is out of the question, and an underlayment must be used. When this is the case, an underlayment of sufficient thickness must be installed, so as to prevent cupping or otherwise taking on the topography of the floor covered. The underlayment should always be installed in ashlar pattern, and nails should be driven no farther than 3 in. apart in a staggered pattern along the seams. Field nails should be 6 in. on-center. Seams should be filled, taped, or otherwise prepared to prevent the possibility of their showing up on the face of the carpet.

Filling compounds are available for smoothing and leveling purposes, but the installer should always check the application instructions of each compound.

Cement Floors. Cement floors present a set of conditions entirely different from those presented by floors of wood. Cement slabs and lightweight concrete floors that are suspended (above-grade floors) may be handled in much the same way as wooden floors; but when a cement floor is on-grade or below-grade, new problems are met. This is especially true when such an installation calls for a glue-down job or when the carpeting is made of vinyl.

One of the chief problems to be met with concrete floors is the presence of moisture. Generally speaking, moisture conditions can be separated into three main categories:

1. Leakage--a condition which creates floor covering failure when water attacks the material from outside the slab through spillage, flooding, and the like.
2. Capillarity--a process where moisture enters the slab in much the same manner as kerosene is carried up a lamp wick or ink is absorbed by a blotter. Capillary flow is caused by a constant supply of water (moisture) in contact with one surface of the concrete (in this case, the bottom) and evaporation from the opposite side. (Such action does not require the presence of hydrostatic pressure, although such pressure will certainly aggravate the problem.)
3. Migrating vapors--a condition where water in the form of a gas or vapor migrates from one area to another.

Inasmuch as this topic deals with floor preparation, it is not appropriate to go too far into the subject of concrete slab moisture, other than to consider its presence and review the steps normally recommended to prevent water damage to the installation. It is strongly recommended, however, that every carpet mechanic take the time to study in some depth the effect of moisture on floor coverings and adhesives, as this problem is becoming more prevalent, sometimes requiring immediate remedial action to save an installation from severe damage.

Although moisture in an on-grade or below-grade concrete slab is not always visible to the naked eye, its presence should be assumed, and this moisture must be controlled if the carpet mechanic expects adhesion to be effective in the installation.

When preparing a concrete slab for the initial installation of carpet, the following procedure should be adhered to:

- Check the floor for cracks, checks, holes, dished-out areas, and "mounded" areas.
- When an area must be filled, it should first be dug out with a hammer and chisel or a power hammer. This will give the filling compound a surface into which it can take a "bite" and will result in a "tooth" anchoring action.
- The area thus dug must be thoroughly cleaned with a brush or vacuum, and the surrounding area must also be cleaned so that no foreign matter can get into the filling agent.

- The cavity should then be filled to floor level with the recommended compound.
- When the fill has dried sufficiently, it should be scraped and sanded until it is smooth and level with the surrounding floor surface. Additional filling may be necessary at this point if the first application did not remain at the desired level.

It should be noted that various underlayment manufacturers specify that certain vehicles, or mixing liquids, be used to mix their products. Whenever possible, however, and when not in contradiction to such specifications, it is recommended that a latex or similar emulsion be mixed with the underlayment, as this adds strength to the fill and provides a good bond. This method also improves the bond between the fill and the adhesive that may be used on a glue-down carpet installation.

If a very deep fill is required, or one that covers a large area, it may be wise to use sand as an extender; but here again it is best to check the manufacturer's specifications first.

The installer should also be sure to use an underlayment compound that will stand up under various traffic conditions, especially on commercial jobs. Handcarts and heavy foot traffic are both to be considered, with special consideration given to the problem caused by women's shoes. (It is estimated that a 120 lb. woman, wearing a shoe with a 1/4 in. heel, will create a pressure on the floor in excess of 1,500 lb. per sq. in. This type of abuse to floor coverings demands a high-quality floor preparation job.)

Some cement floors have hard-troweled or "polished" surfaces, and it may be necessary to treat the floor with oxalic acid wash and then rinse with clear water. This treatment will provide a surface into which an adhesive can bite. This procedure is required, however, only when an adhesive is to be used on an installation. Chemical treatment may also be necessary if the slab has grease or wax on its surface. Trisodium phosphate may be used for this purpose, rather than acid.

Occasionally it will be found that a concrete floor has some foreign substance on its surface (such as paint, for example), and this must be removed with a power sander or, perhaps, a solvent. If a solvent is used, normal safety precautions should be observed:

- The solvent should be nontoxic and have a high flash point.
- Whenever any solvent is used indoors, safety considerations demand that good ventilation be provided.
- In any event, the solvent should never be used near any fire or flame.

After a slab has been sanded or washed with solvent, it may be necessary to add sealer in preparation for a glue-down installation. This procedure will help control the passage of moisture and any alkali activity in the concrete. A good epoxy sealer may be applied with the smooth side of a trowel. Care must be taken to cover the entire floor, as any "holidays"--spots not adequately covered with sealer--will allow moisture to seep through and attack the adhesive. The sealer will also prevent water from entering the slab from the top, as might occur when a carpet is wet-cleaned. If moisture were to enter the slab from the top, it could reactivate the alkaline salts in the cement and allow them to attack the adhesive.

On-grade concrete floors that incorporate radiant heating do not escape the problem that exists in similar floors without radiant heating--moisture. The carpet installer must be certain, therefore, that proper surface preparation has been accomplished so that the adhesive will not break down after a period of time. The floor surface may be sealed with an epoxy compound as described previously, but there are on the market numerous other sealers which will do a good job of stopping moisture once the floor has been covered with carpet.

Checkup

Decide what word belongs in each blank space so the statement will be complete and true. Then write the word at the right in the space correspondingly numbered.

1. One of the most important parts of carpet laying is ____1____ preparation. — 1. __________

2. New installation processes have made floor preparation especially important, even though carpet ____1____ have not changed greatly. — 1. __________

3. The two distinct categories that exist in wood floor construction are ____1____ and ____2____. — 1. __________ 2. __________

4. Most wood floors are installed over ____1____ subfloor construction. — 1. __________

5. The on-center spacings of stringers may vary from ____1____ inches to ____2____ inches. — 1. __________ 2. __________

6. To stop wood floor oscillation or eliminate squeak, it may be necessary to ____1____ the floor. — 1. __________

7. When renailing a wood floor, cement-coated, ring-groove, or ____1____-type nails should be used. — 1. __________

8. A good floor sealer for wood floors may be made from equal parts of ____1____ and ____2____. — 1. __________ 2. __________

9. When a stripped floor is badly cupped, it may be necessary to use a(n) ____1____. — 1. __________

10. Cement slab floors may be expected to offer problems when they are ____1____ or ____2____ grade level. — 1. __________ 2. __________

11. The chief problem encountered with cement floors is that of ____1____. — 1. __________

12. Moisture content in cement floors exists even when the slab incorporates ____1____ ____2____.
1. ________
2. ________

13. Moisture in a cement floor is not usually evident in ____1____ inspection.
1. ________

14. Cement floors should be checked initially for the presence of ____1____, ____2____, ____3____, and dished-out or "mounded" areas.
1. ________
2. ________
3. ________

15. Filling compounds require a surface into which they can ____1____ or lock.
1. ________

16. Latex or a similar emulsion, when used to mix a filling compound, is considered as a ____1____.
1. ________

17. Hand-troweled or "polished" cement surfaces may be treated with a(n) ____1____ wash.
1. ________

18. Any solvent used to clean a cement slab should have a ____1____ flash point.
1. ________

19. The alkaline salts within a cement slab may be ____1____ if the slab is subjected to moisture through wet-cleaning.
1. ________

20. Other than above-grade, cement floors are classified as ____1____-grade and ____2____-grade.
1. ________
2. ________

TOPIC 2--INSTALLATION OF FASTENERS AND PAD

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- How does carpet construction and weight affect the installation of tackless strip?
- What are the various methods used to anchor padding, and why are they all necessary?
- What is the best method to anchor padding to concrete floors?
- When is the taping of seams recommended on padding jobs?
- What is the most common method of anchoring padding to wood floors?

Prior to the laying of carpet, the padding and the carpet fasteners must be installed. Each installation offers its share of problems, and the carpet mechanic meets these by utilizing the various products, materials, and devices made available by the carpet industry. Most important in meeting these problems is the knowledge of the carpet mechanic, augmented by a liberal amount of his good judgment. Regardless of the type of padding being installed, the kind of fasteners needed to meet the existing conditions, and the type of surface upon which the material is laid, the finished job must be such that the carpet can be installed with no chance of trouble developing later on.

Related Information

Installation of Tackless Strip

Carpet Weight. On many large installations, the very weight of the carpet becomes a considerable factor in the stretching process. The weight of a carpet may tend to unhook it from the starting end during the stretching process. If this should occur, a double row of tackless strip may be installed along the starting wall to provide additional anchorage of the carpet edge.

On Concrete Floors. When preparing to install carpet on a concrete floor, the carpet mechanic should determine first whether the slab is made of lightweight aggregate. The density of lightweight concrete made with an aggregate of vermiculite or perlite is approximately 20 to 60 pounds per cubic foot. Whenever this type of slab is used, it should be covered with a one-inch layer of regular concrete mix.

Most light weight slabs can be steel-troweled to a finish resembling that of standard weight concrete; therefore, the installer cannot judge from the appearance of the slab whether or not it is lightweight. Perhaps the best way to determine this is to hammer into the surface a common wire nail with a fairly heavy shank. With lightweight concrete, the nail, in most cases, will drive with comparative ease into the concrete after the point breaks through the surface. With some lightweight slabs, however, it will be found necessary to use the new type of tackless strip with special nails or use extra "back-up" nails with the regular type of tackless strip.

Nailing Tackless Strip. It is a good practice to use a guard to prevent damage to baseboards and walls when nailing tackless strip. This is especially true when nailing into a concrete floor or when the base is finished with a light paint. In some cases a guard should be used when nailing into a wood floor on particularly "fussy" jobs. Such a guard may consist of a piece of plywood, particle board, or similar material in a thickness equal to the desired width of the gully between the strip and the wall. The guard is held against the wall and moved along the floor as the nailing proceeds. The guard must be large enough to protect both wall and base against accidental hammer blows or ricochetting nails.

Many installers have found that by nailing with the hammer handle held more or less parallel with the floor, the possibility of damage is lessened.

Another device sometimes used when fastening tackless strip to the floor (either wood or concrete) is called a driving bar. This tool is sometimes used when it is necessary to reach areas under toe kicks, wall furnaces, and similar overhangs. It is equally valuable around expensive rock and brick work and next to glass doors and windows.

Installation of Padding

Cutting the Pad. In certain instances it will be found that padding cannot be cut in the usual manner. For example, on jobs where the finish of the floor must be protected for future use, the pad knife is not the best tool to use because it may cause score marks on the floor. In this case it is better to cut only part way through the pad with the knife, finishing the cut with the shears. Extra care should also be taken when stapling a pad on such a job by using the minimum number of staples.

Equal care should be afforded the cutting of a pad when it is resting on top of another piece of the same material. This sometimes occurs, for example, when padding is flashed up a wall, and the padding must be turned back against itself for cutting. All too often the knife cuts the surface of the pad below, resulting not only in an unsightly job, but sometimes weakening the pad. In any event, it means a less-than-best job and should always be avoided by the thoughtful installer.

Stapling the Pad. When anchoring padding with a stapling hammer, it is sometimes useful to determine which way the carpet will be stretched, then use a double row of fasteners in the pad next to the wall toward which the carpet will be stretched. This prevents the pad from moving under the pressure of the stretching procedure.

Anchoring with Paste. When padding is installed in unusually large areas, it is especially important that it be made secure. Linoleum paste is often used to anchor padding in large areas where the surface is concrete. In this procedure, the bucket method may be used instead of the trowel. To do this, the pad should be laid out in the usual fashion; then a can should be filled (a one-gallon paint can will do) with linoleum paste thinned with water. The can may be filled up to 3/4 full, depending on the size of the area involved. The bucket of paste should be quickly turned upside down and moved around the room until an adequate amount of paste has been deposited. With a little practice, it is possible to do this without folding back the carpet pad.

If rubber padding is to be installed over a concrete floor, a new pad adhesive designed for this use is recommended. This adhesive does not make a "cracking" sound when old and dried, as some products do.

Assignment

Duffin, D. J., *The Essentials of Modern Carpet Installation,* pp. 98-107, 114-17, 141-45, and 170-74.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. The gully used between wall and tackless strip is always slightly wider than the carpet thickness. 1. T F

2. When installing tackless strip where base molding is in place, the carpet mechanic must always remove the molding first. 2. T F

3. It is an accepted practice in the trade to miter all tackless strip in and around all corners. 3. T F

4. When tackless strip is nailed around door jambs, each short piece should be held with at least two nails. 4. T F

5. Sometimes it is desirable to anchor the padding before anchoring the tackless strip. 5. T F

6. Two methods used to install tackless strip on concrete floors are bonding with adhesive and nailing. 6. T F

7. When it is necessary to drill and plug a concrete floor to install carpet, the holes should be on at least 19 in. centers. 7. T F

8. One method used to finish edges of carpet for aisles in a theatre is to bind them; another method is to fasten the edges with binder bars. 8. T F

9. When it is necessary to cement tackless strip to a concrete floor, dust and dirt must be removed, but the wax can remain. 9. T F

10. Two rows of tackless strip side by side are used sometimes when a heavy stretch of carpet is expected. 10. T F

11. To fit padding on a turn-and-tack installation, the padding should be cut back at least 1-1/2 in. from the wall. 11. T F

12. In laying out the padding, special care should be taken so that the seams do not fall exactly where the carpet seams will fall. 12. T F

13. It is inadvisable to stretch foam rubber padding during installation. 13. T F

14. Padding should be fastened with staples or tacks about 3 in. apart around the outside of a room. 14. T F

15. When padding is fastened to concrete floors, it is usually necessary to spread adhesive only around the seams and the outside edges. 15. T F

16. Taping of seams in padding is recommended on certain installations because free gases and carbon soot can cause staining on carpet surfaces. 16. T F

17. When padding is installed in heavy traffic areas, sewing is sometimes recommended in addition to stapling or tacking. 17. T F

18. Carpet installers who contend that the waffle side of padding should be "up" claim that this makes carpet stretching easier. 18. T F

19. Carpet installers who contend that the waffle side of the padding should be "down" claim that a more uniform surface is created by this method. 19. T F

20. If a carpet is to be stretched from north to south, it is advisable to double-tack the padding along the north wall. 20. T F

TOPIC 3--INSTALLATION OF TUFTED CARPET

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What differences exist in the stretching of various kinds of carpet?
- Why are some carpets "angle-stretched"?
- How and when should the power stretcher and the knee kicker be used?
- What is "plank stretching," and why is it used?
- What is a "cotton head," and when is its use required?
- What are the basic steps in the technique of stretching tufted carpet?

Each kind of carpet manufactured today requires a particular method of installation. For the most part, the tools used for installation are the same, but the techniques vary. Among the several kinds of carpet, there are only two general types--the woven and the tufted. This topic deals specifically with the installation of tufted carpet.

Related Information

When tufted carpet is made with a short nap and a single back, it tends to tear slightly when side pressure is applied to the pins on a stretcher. When stretching this kind of carpet, therefore, it is best to use the cotton head on the stretcher, instead of the pins. The advantage here is that the many small points on the cotton head will grasp only the nap of the carpet and will not tear the back. Special care must be taken, however, when disengaging the head from the nap; otherwise, the yarns may untwist and leave a "fuzzy" appearance on the carpet face.

The basic steps to be taken when stretching carpet are outlined in the assigned reference, but tufted carpet requires a special technique; that is, stretching in a direction at an angle to, rather than perpendicular to, the wall toward which it is being stretched.

The following procedure should be studied and adhered to when carpet is being laid (see Fig. 1):

1. Temporarily hook the carpet at point "A" at the lower right hand corner of the diagram. Then, using the power stretcher, stretch the carpet from point "A" to "C", and temporarily hook the other end of the carpet at point "C."

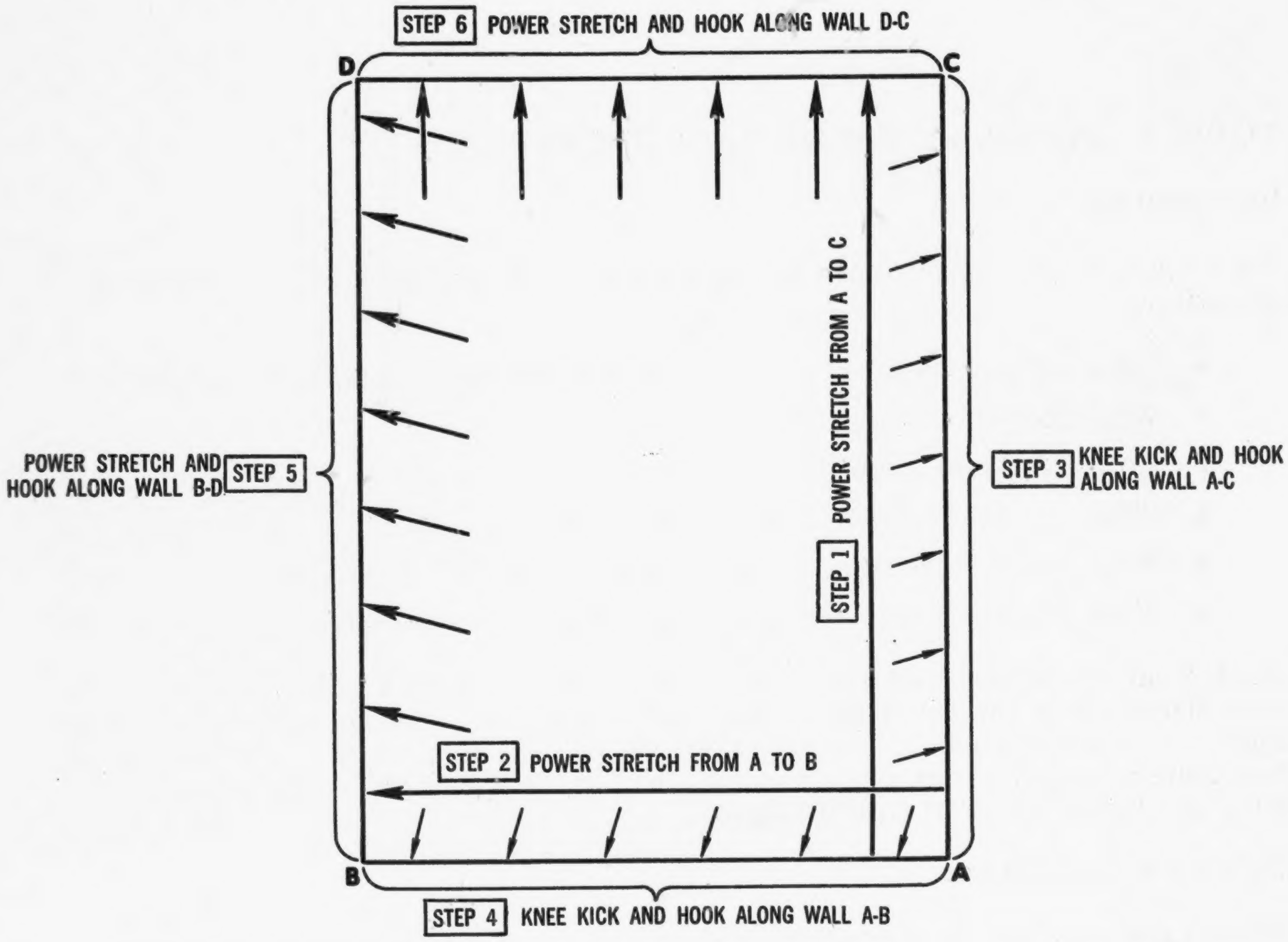

STEP 6 POWER STRETCH AND HOOK ALONG WALL D-C
D
C
POWER STRETCH AND HOOK ALONG WALL B-D
STEP 5
STEP 1 POWER STRETCH FROM A TO C
STEP 3
KNEE KICK AND HOOK ALONG WALL A-C
STEP 2 POWER STRETCH FROM A TO B
B
A
STEP 4 KNEE KICK AND HOOK ALONG WALL A-B

Fig. 1. How to stretch tufted carpet

2. Again using the power stretcher, stretch the carpet from point "A" to point "B," and hook the other end of the carpet at point "B."

3. Using the knee kicker, stretch the carpet at a 15-degree angle as indicated in the diagram, and hook at the wall from "A" to "C."

4. Again using the knee kicker, stretch the carpet at a 15-degree angle, hook at the wall from "A" to "B."

5. Using the power stretcher this time, stretch the carpet at a 15-degree angle, as shown, and hook along the wall "B" to "D."

6. To complete the job, again use the power stretcher; stretch the carpet directly toward the wall "D" to "C" and hook it. Do not angle the stretch on this last step.

Note that the 15-degree angle is specified for stretching toward the first three walls, with a direct stretch toward the final wall. This is necessary because of the nature of the tufted construction which tends to "give" more than other weaves. If the stretch is not angled properly, the rows of tufts may finish out of line.

When two rooms to be carpeted are joined by a doorway or arch, the carpet should first be cut so it will fit around the partition that divides the two areas. The carpet is then stretched and hooked along both sides of this partition in the same manner as was done in a single-room installation. The doorway area must be stay-tacked, however, prior to the stretching procedure. The partition becomes the "first wall" in the procedure.

The use of an awl to roll the carpet into the gully is recommended in the assigned material. However, many double-backed tufted carpets are too stiff to be turned with this tool. When this situation is encountered, a stair tool and a hammer or mallet should be used.

A butt board, made from a 4 ft. piece of 2x4 and covered with carpet, should be used between the abutment block on the stretcher and the wall to prevent damaging baseboard or plaster wall.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 118-49.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. The knee kicker should be used only to bump the carpet, not to stretch it. — 1. T F

2. At least 1/2 in. of carpet must be turned up the wall to start the compressed starting edge. — 2. T F

3. After the compressed starting edge is ironed on to the tackless strip, it should then be turned into the gully. — 3. T F

4. The tufted carpet should be stretched in at an angle of 15 degrees at the first three walls. — 4. T F

5. The head of the stretcher should be positioned about 6 in. from the wall, with the handle in the "down" position. — 5. T F

6. The stretcher should be adjusted so that the teeth will just penetrate the nap. — 6. T F

7. The knee kicker should be used to stretch the carpet between the bites taken by the power stretcher. — 7. T F

8. The cotton head should be used on double-backed carpet. — 8. T F

9. Insofar as stretching is concerned, two basic types of carpets are to be considered. 9. T F

10. Tufted carpet does not require as much stretching as woven carpet. 10. T F

11. Carpet manufacturers should be consulted about the amount of stretch they recommend for their products under varying conditions. 11. T F

12. The pins on the knee kicker should be extended if they tend to tear the backing on single-backed carpet. 12. T F

13. The Roberts trimmer may be used to roll the carpet into the gully. 13. T F

14. A backing board is used to prevent the tearing of the carpet backing. 14. T F

15. The cotton head will help prevent any damage to the carpet. 15. T F

16. Carpet should be cut around a fireplace hearth prior to final stretching. 16. T F

17. The right hand should always be used on the knee kicker. 17. T F

18. When the turn-and-tack method is used, the carpet should be made up 3 in. longer than the room. 18. T F

19. When using the knee kicker, the carpet mechanic should never strike the cushion with the knee cap. 19. T F

20. Stay-tacks are used to help make the carpet stay on the tackless strip. 20. T F

TOPIC 4--INSTALLATION OF WOVEN CARPET

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- How does the installation of woven carpet differ from that of tufted carpet?
- What unique characteristic of Axminster carpet affects installation?
- In what major ways do knitted, velvet, and Wilton carpets differ from Axminster?
- In what ways can the friction between carpet and padding be overcome?
- Does the method used in fastening the carpet affect the installation procedure?

Most residential and many commercial jobs use some kind of tufted carpet, the installation of which was outlined in the previous topic. But still a great deal of woven carpet is used, especially on commercial installations. In the installation of woven carpet, the principal difference between the various types is found in the stretching part of the laying procedure.

This topic describes the installation procedures for Axminster, Wilton, velvet, and knitted carpet, although the latter is not a "woven" carpet in the strict sense of the word.

Related Information

In most cases, the installation of woven carpet requires more care than tufted because the rows of nap across the width of the fabric must be kept straight. The only exception to this rule is with knitted carpet, since the rows run diagonally across the width in a random fashion.

Each type of carpet will differ from another in the amount of allowable stretch both in width and in length. Before starting a job, therefore, the installer must know the stretching capabilities of the carpet being installed. The foreman or lead man on a large commercial job will usually determine the stretching procedure to be used on a large area. It is essential, however, that the apprentice learn the reasons why the procedures vary.

Axminster. Axminster carpet is unique in that it allows almost no stretch in its width, but a great deal of stretch along its length. The most common error made on an Axminster installation is overstretching on the first wall. This ultimately leads to overstretching the entire length and sometimes results in the backing material being torn. When studying the stretching procedure for Axminster carpet, the carpet mechanic should refer to Fig. 2.

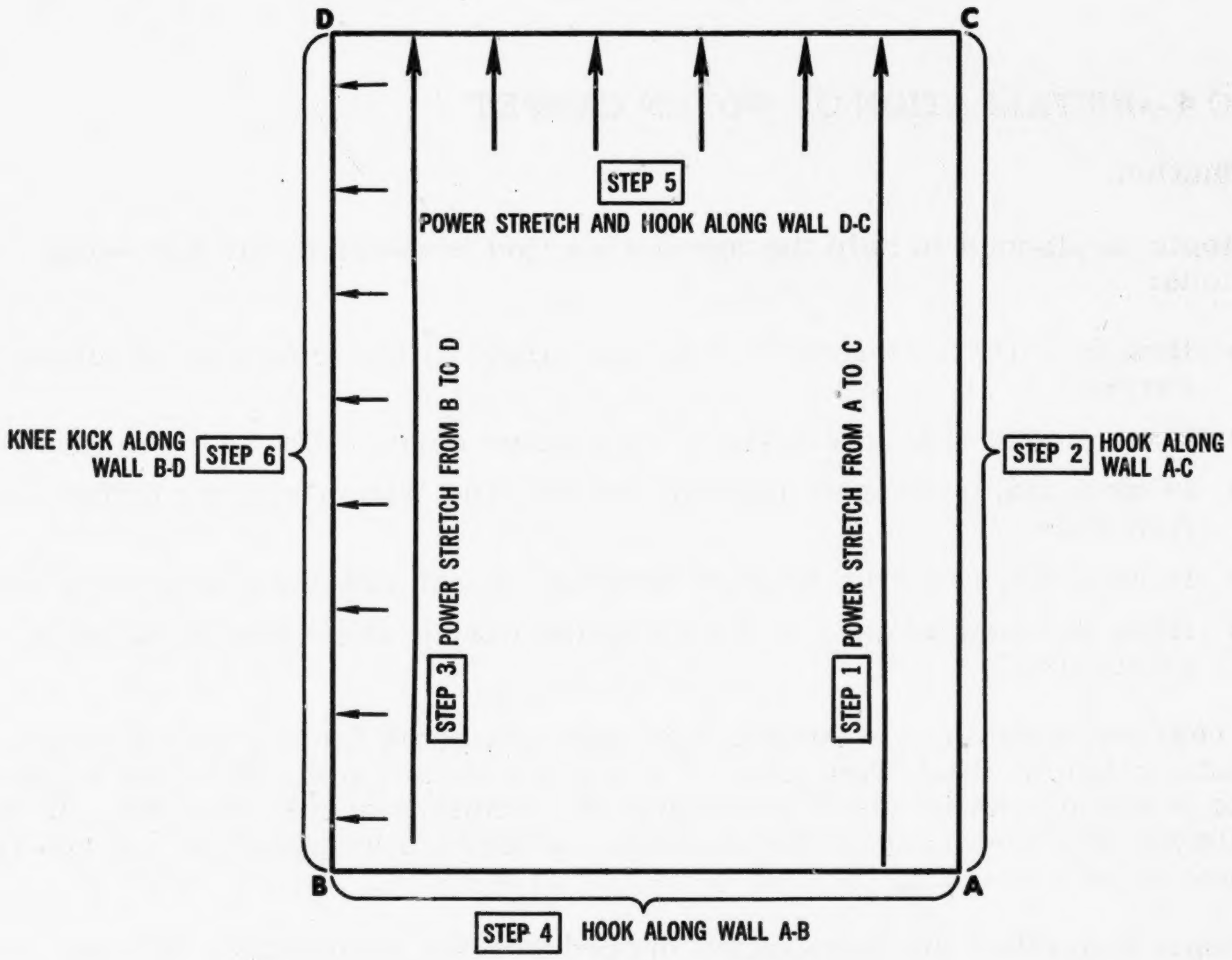


Fig. 2. How to stretch Axminster carpet

The stretcher and knee kicker must first be adjusted so that the pins will penetrate the back of the carpet; this rule applies to all types of carpet. The following steps outline the correct procedure for stretching:

1. Using the compressed edge starting technique, hook the carpet at point "A" approximately one foot along each wall. With the power stretcher, hook the carpet at point "C."

2. Iron the carpet onto the pins in the tackless strip along wall "A-C," but make sure that the pattern is kept straight. This carpet is very difficult to bend along the side of the roll, so make sure that the carpet is well hooked.

3. Power stretch from "B" to "D," and hook the corner at point "D."

4. Hook the carpet along wall "A-B," and make sure that the pattern is straight.

5. Use the power stretcher to stretch and hook along wall "C-D."

6. This carpet can usually be stretched enough widthwise with the knee kicker along wall "B-D." If not, the power stretcher will have to be used for this last stretch.

7. After this carpet is properly stretched, and the seams and pattern are straight, trim the carpet to the proper length at the walls and tuck it into the gully.

The procedure for stretching knitted, velvet, and Wilton carpets is basically the same as for Axminster, except for steps No. 3 and 5 (see Figs. 3 and 4).

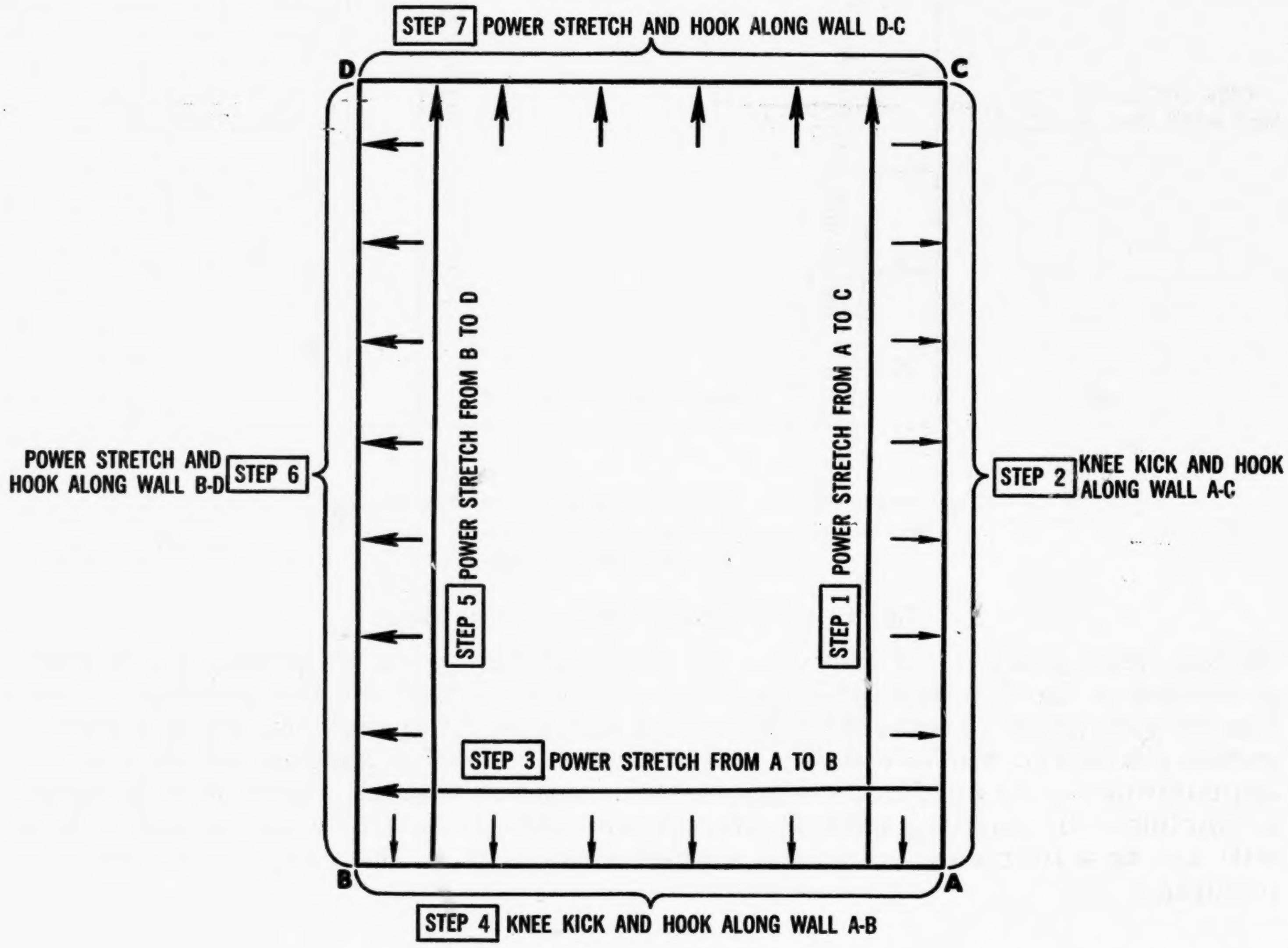

STEP 7 POWER STRETCH AND HOOK ALONG WALL D-C
D
C
POWER STRETCH AND HOOK ALONG WALL B-D
STEP 6
STEP 5 POWER STRETCH FROM B TO D
STEP 1 POWER STRETCH FROM A TO C
STEP 2 KNEE KICK AND HOOK ALONG WALL A-C
STEP 3 POWER STRETCH FROM A TO B
B
A
STEP 4 KNEE KICK AND HOOK ALONG WALL A-B

Fig. 3. How to stretch knitted carpet

Knitted, Velvet, and Wilton. It should be noted that the knitted and velvet carpets permit more stretch in the width, while the stretch is approximately equal in the length and width of the Wilton weave.

The amount of stretch in any piece of carpet is determined by many factors, the principal ones being the tightness of the weave, the type of fibers used in the weaving, and the type and amount of coating used on the back of the carpet. In tufted and knitted carpet, the application of a double back greatly reduces the amount of stretch.

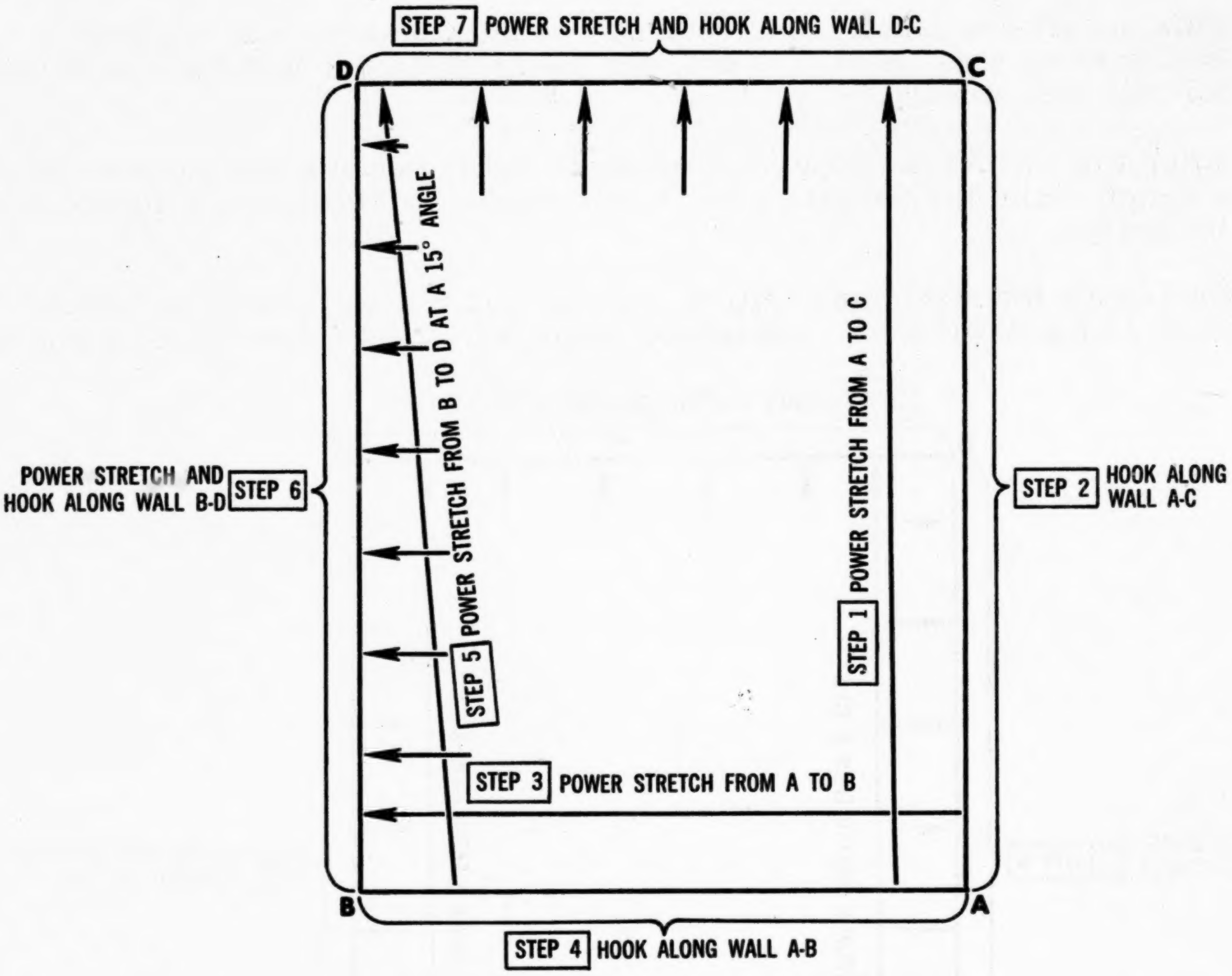

STEP 7 POWER STRETCH AND HOOK ALONG WALL D-C
D
C
POWER STRETCH AND HOOK ALONG WALL B-D
STEP 6
STEP 5 POWER STRETCH FROM B TO D AT A 15° ANGLE
STEP 1 POWER STRETCH FROM A TO C
STEP 2 HOOK ALONG WALL A-C
STEP 3 POWER STRETCH FROM A TO B
B
A
STEP 4 HOOK ALONG WALL A-B

Fig. 4. How to stretch velvet and Wilton carpet

As has been pointed out earlier, the greatest deterrent to getting a full stretch in carpet is the friction developed between the carpet and the padding. This can be overcome in several ways. For example, the installation of waffle padding with the waffle side up will reduce the area of padding contact by approximately 50 percent. When rubber padding is used, it is often helpful to sprinkle the padding with powdered talc before unrolling the carpet. This will act as a lubricant to permit easier movement of the carpet over the padding.

On a large job, it is often possible to station men along the sides of the carpet being stretched to lift and shake the carpet, permitting air to flow between the carpet and padding. This will greatly reduce the friction between the two and permit a much better stretch.

When stretching carpet in large areas, it is usually best to start at the center of the room and make the first stretch along the center seam. Line up the seam to a chalk line so that it is straight, and stay-tack the entire length. This seam may now be considered as the first "wall" in the room; and, following the procedure in the diagrams, the stretching and hooking process can be completed.

Large rooms are very often broken up by obstacles such as posts, partitions, and the like. In such a case, the area between two rows of posts may be treated as one room. The width should be stretched and the edges stay-tacked, after the carpet is carefully cut around each obstacle. This should be done so that the cuts may later be top-seamed, either by top-sewing or tape seaming. The lengths should be stretched and hooked at the same time. The carpet for the next area may now be joined to the carpet already fastened, and the same procedure may be followed all across the room.

The stretching procedures outlined have been designed for hooking carpet on tackless strip, but it makes little difference what method of fastening is used at the edges of the carpet.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 170-85.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. Velvet and Wilton carpets are always stretched at a 15-degree angle. — 1. T F
2. Velvet carpets will not stretch as much on the length as on the width. — 2. T F
3. Axminster carpet is easily overstretched on the length. — 3. T F
4. The rows of nap run straight across the width on velvet carpet. — 4. T F
5. When carpet is heavily sized with latex, it will not permit much stretch. — 5. T F
6. Wilton carpet must be stretched lengthwise before it is stretched widthwise. — 6. T F
7. Double-backed knitted carpet will permit a greater stretch than single-backed. — 7. T F
8. Wilton carpet will permit a greater stretch lengthwise than widthwise. — 8. T F
9. Axminster carpet is most difficult to hook on tackless strip along the edges of the roll. — 9. T F
10. Planks laid end to end may be used to extend the tubing reach on the power stretcher. — 10. T F

11. The seams in a carpet can be weakened by incorrect stretching or kicking. 11. T F

12. Large areas are usually stretched from the center of the room toward the walls. 12. T F

13. After cutting around an obstacle in the room, the carpet mechanic should back-sew the resultant seam. 13. T F

14. The step-by-step procedures for stretching Wilton and velvet carpets are the same. 14. T F

15. Axminster carpet will permit very little stretch across the width. 15. T F

16. Axminster carpet should be stretched widthwise before it is stretched lengthwise. 16. T F

17. The location and condition of carpet anchoring devices are equally important on both large and small areas. 17. T F

18. Hard and fast rules must be followed when stretching large areas of carpet. 18. T F

19. Understretching of carpeting is more dangerous than overstretching on commercial jobs. 19. T F

20. Much damage can result from sprinkling the carpet with water to shrink it. 20. T F

TOPIC 5--INSTALLATION OF RUBBER-BACKED CARPET

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What is rubber-backed carpet, and what are the two major types?
- How many "basic weaves" are used in the making of rubber-backed carpet?
- What is the main difference between sponge-back and dense foam?
- What is the most popular weave used today in rubber-backed carpet?
- What fibers may be used for rubber-backed carpet?
- How many installation techniques are prescribed for rubber-backed carpet?

The term often used to describe carpet that is laminated to a rubber backing is "sponge-bonded," but the increasing popularity of rubber-backing in forms other than sponge leads to confusion. For the purpose of this topic, the term "rubber-backed carpet" will be used to mean a carpet backed by rubber, either in the form of sponge or foam, and may be extended further to cover sponge or foam backing made of rubber-like, but synthetic products.

It is expected that many new forms of rubber-backed carpet will appear on the market during the next few years; and few, if any, of them will be exactly alike. Not only are the installation procedures for rubber-backed carpet different from those for "conventional" carpet, but procedural differences exist between sponge-back and foam-back, as well as between different brands of each one.

It should be obvious, therefore, that no single installation procedure could be outlined here to cover all of these products, nor is it possible to explain the small differences in procedure between each one. Consequently, the material offered in this topic is of a general nature, designed to serve as a reasonable compromise between all sets of conditions and materials. Installers are cautioned to check the installation specifications of all manufacturers of rubber-backed carpet to be certain of the best possible job.

Related Information

Four basic "weaves" are used in making rubber-backed carpet--velvet, tufted, flocked, and modified Wilton. When rubber-backed carpet was first introduced some 20 years ago, it was made only in the velvet weave, and its sale represented a very small portion of the total market. In the past four or five years, however, several mills have begun to manufacture some form of rubber-backed carpet, and it has now become a major item in the carpet industry. Indications are that this trend will continue, with new weaves and improved backings certain to emerge.

The velvet and tufted surfaces used for rubber-backed carpet are the same as those on conventional backing, but the other two--flocked and modified Wilton--are new to the trade. Any of the fibers used for nap in conventional carpet may be used with any of these weaves, however.

The most widely-used weave at this time is the modified Wilton, which combines the weaving techniques of both Wilton and velvet. The result is an extremely tight weave that prevents the free passage of liquids between the fibers.

When one of the new man-made fibers is used for the nap with this modified Wilton weave, it produces a light weight, tough carpet that will stand up under commercial traffic and is highly resistant to spotting and staining; in fact, this type of carpet is widely used today in kitchen areas.

The least-used weave is the flocked carpet. This is made on a tightly-woven back, and the nap is bonded to the surface with an adhesive.

Rubber-backed carpet is usually cemented to the floor; however, some kinds can be secured at the edges and seams with a pressure-sensitive double-faced tape. In any case, the installer should obtain the installation specifications supplied by the manufacturer of the carpet to be installed.

Generally, the manufacturer will specify one or more brands of floor adhesive, seam cement, and a latex-based crack filler to be used in preparing the floor. These specifications must be followed carefully; otherwise any warranty the manufacturer has on his product may be voided.

There is a strong tendency among installers to substitute a fast-drying, plaster-type crack filler for the slower-drying latex filler. This can create a failure in the installation, because the latex carpet adhesive used generally contains a solvent that will attack the plaster filler, causing it to break down and separate.

The Glued-down Installation. The floor surface must be dry, structurally firm, free of dust, dirt, oil, paint, grease, or wax. It is absolutely essential to sand or strip waxed floors to obtain effective cement adhesion.

Cement floors may have depressions, cracks, screeds, and expansion joints. Use the recommended type of crack filler to smooth these spots, since this carpet will show any unevenness in the floor.

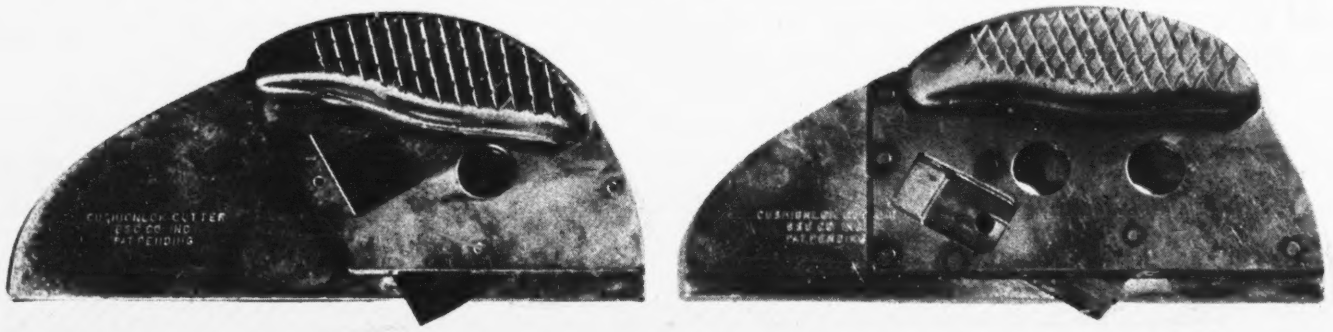
Time should be taken to clean the floor thoroughly before the job is begun; it should be swept and vacuumed, if possible. When laying out the job, the carpet mechanic should determine where the best seam locations will be and utilize waste pieces as much as possible.

The breadth should be cut sufficiently long to permit the carpet to turn up each wall at least 1-1/2 in. This will ensure a good trim. These fabrics are made with a protective selvage that must be trimmed off to make the finished seam. The amount of trim is indicated by two or more rows of nap on the selvage. These rows are different in color from other rows in the carpet and will differ from one side of the breadth to the other, enabling the installer to lay every breadth with the pile lay in the same direction.

Before placing the carpet breadth on the floor, a chalk line must be struck to indicate the exact location of the first seam. As each breadth is carried into the area, the protective selvage is removed by cutting between the colored guide line and the first row of yarn with the Cushionlok Cutter or the Viking Row Runner Knife.

These knives were designed for cutting sponge-back carpet, and they do an excellent job on this type of material. However, they do not make a clean cut on most of the newer "dense foam" backings. Consequently, new models of this knife have been introduced that, if properly used, make a satisfactory cut on foam.

The principal difference between the sponge knife and the foam knife is the angle at which each blade is set. The sponge knife blade is set at 60 degrees, while the foam knife blade is set at 33 degrees (see Fig. 5).



The cutter on the left is designed to cut sponge backing; that on the right for cutting dense foam. Note the difference in blade angle between the two.

Fig. 5. Cushionlok cutters

When trimming foam, the carpet mechanic must press down firmly on the knife. This compresses the foam, offering more resistance to the blade and making a much cleaner cut. When a cut is made on sponge-back, the trimmed material should be torn off by pulling the waste portion downward. This procedure should not be used with dense foam, however, since it will result in a ragged edge that will prove to be most difficult to seam. For foam, the waste should be pulled to the side to achieve a satisfactory edge.

Particular care must be taken when making these cuts to ensure the cut edge is always square. If the backing is undercut, the carpet face will have no support, and the seam will form into a valley. (For easier trimming, the row along which the cut will be made should be opened by chasing down it with a screwdriver or dull awl.)

The first breadth should be placed on the floor and positioned so that the trim on each end is equal, and it should be straightened so that one side lines up exactly with the chalk line on the floor. If the carpet does not butt flush to the chalkline, variations can usually be bumped out with the cotton head on the knee kicker. Bumping should be done gently across the width, beginning in the center and working toward the selvage until the edge is brought flush with the chalk line. Subsequent breadths should be laid in place, and each one should be straightened with the knee kicker in the same manner as the first one.

The entire room should be inspected carefully at this point. Sometimes there will be some shading between breadths, and a better appearance can be obtained by shifting a breadth from one location to another.

The height of adjoining breadths should also be checked, since a thick or thin edge will be found occasionally. Many times this piece can be used against a wall and the bad edge trimmed off.

It is most important that the nap on each width meets at the same level at the seams; otherwise it is impossible to make a good seam. Whenever breadths of unequal thickness are discovered and the bad edge cannot be trimmed off on the job, the manufacturer should be notified before the installation is completed. The mill representative may elect to supply new material, or he may underwrite the added labor and material that will be required to build up the low side of a seam. This may be done by using graduated widths of double-faced pressure-sensitive tape to elevate the low side to the required height (see Fig. 6).

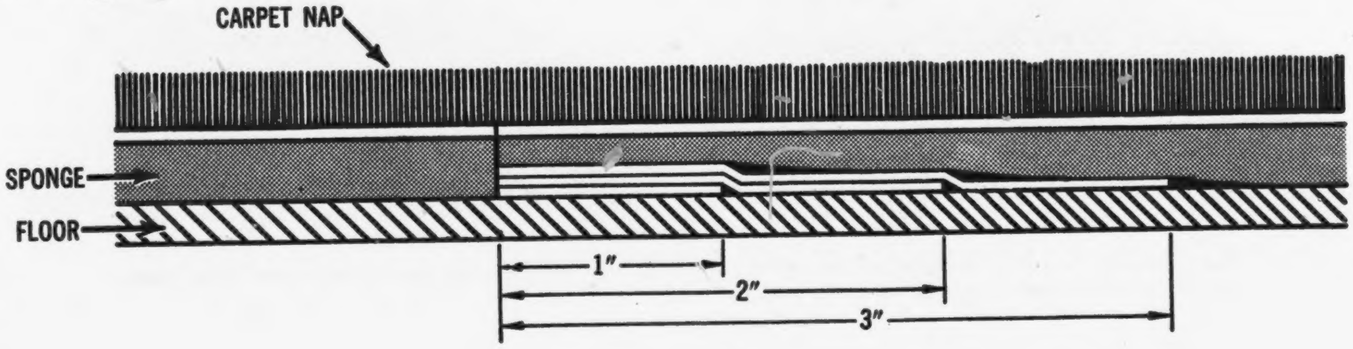


Fig. 6. Building up a low side of a seam with tape

When broadloom is installed, the permanent installation begins in one of two ways. The first requires turning the carpet back from the sides so that the entire length can be spread at one time. The two seam edges should be turned back one third of each breadth adjacent to the chalk line, and the recommended floor adhesive should be spread on the exposed floor in accordance with the instructions for the adhesive being used.

Only a third of each breadth is cemented down to begin with for three reasons:

1. The breadths are less likely to shift their position on the floor.
2. This system allows more freedom for working the carpet to the chalk line.
3. The subsequent breadths for the "one-third/two-thirds" foldover technique of installation are set up, which will make the whole job easier.

It is most important that the correct amount of adhesive is applied to the floor. Usually one gallon of adhesive will cover 15 to 20 sq. yd. of floor, but this can vary with the porosity of the floor being spread.

A trowel, with notches 3/32 in. to 1/8 in. deep and 1/8 in. apart, will usually do the job, but three factors will determine whether a sufficient amount has been spread:

1. A scum must not form over the surface of the adhesive.
2. The back of the carpet must be thoroughly wetted by the adhesive to guarantee complete adhesion.
3. It must be possible to move the carpet on the adhesive with the knee kicker.

When covering a very dry, porous concrete floor, it is usually best to first mop the floor with a solution of 1 tablespoon of ammonia to a pail of water to retard the absorption of the liquids in the adhesive, thus extending the "open" time.

When the installation specifications require the use of a seam cement, this should be applied before the carpet is laid on the floor adhesive. The seam cement serves two purposes:

1. It seals the edges of the woven fabric to prevent raveling.
2. It joins the two breadths so that they will remain at the same level.

It is not necessary to apply the seam cement to the cut edge of the sponge; it should be applied to the edge of the backing only (see Fig. 7).

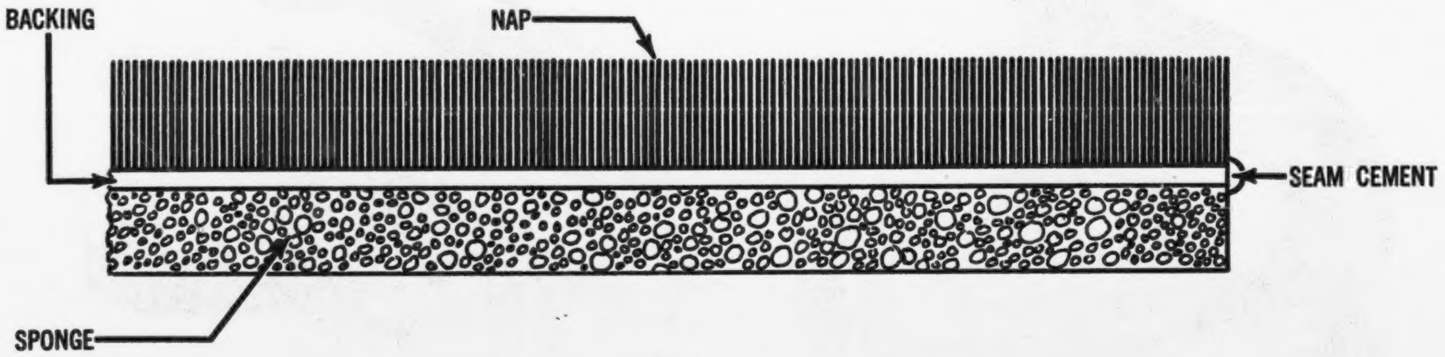


Fig. 7. Application of seam cement

Some manufacturers of seam cement supply it in a nozzled tube which is used as an applicator, and some provide an applicator attachment which may be used on the cement container. (A good substitute is a plastic dispenser bottle of the type used for catsup.)

When the carpet is laid on the adhesive, air may be trapped between the sponge and the adhesive, preventing the carpet from sticking. These air bubbles can be easily removed by using a fairly stiff push broom to sweep the air toward the edge of the carpet where it can escape.

The position of the adjacent breadths laid on the adhesive may have to be adjusted with the knee kicker so they will butt properly at the seams. Seams should be finished at this time.

The two adjacent carpet surfaces must be level and in contact with each other. If a section of the seam springs open due to carpet tension, it may be pulled together with the knee kicker and stay-tacked until the adhesive sets up and bonds the seam together permanently.

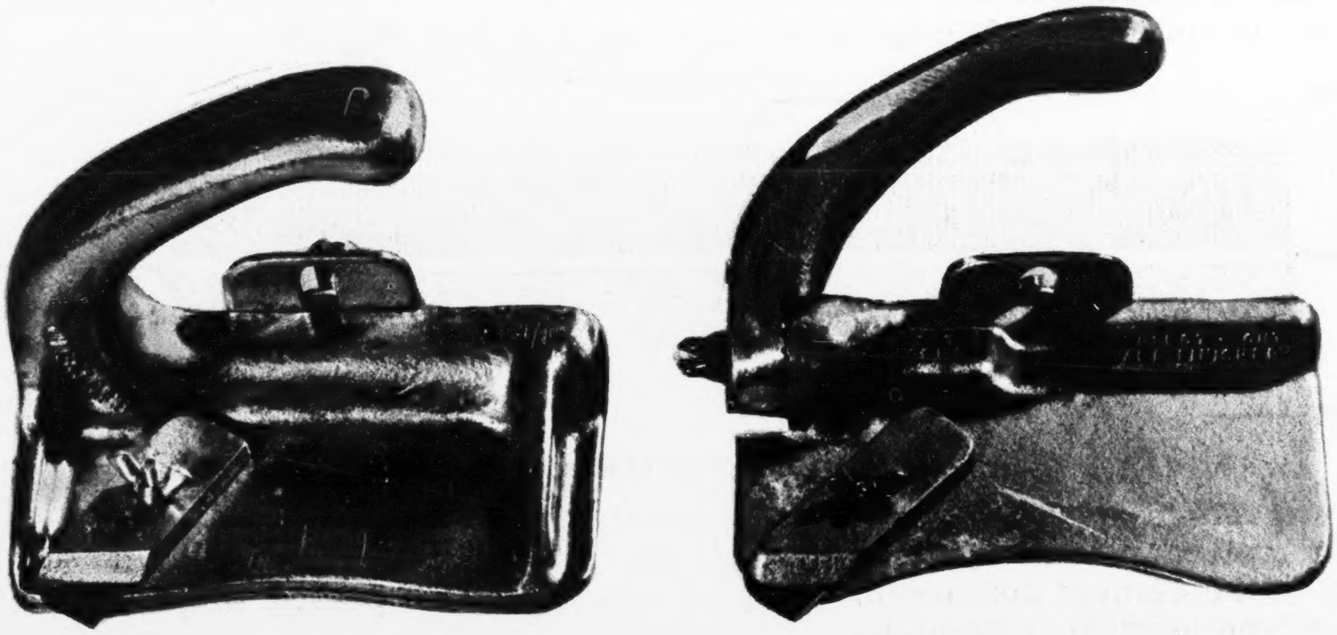
Sometimes a few tufts may accidentally be turned down into the seam. These should be released, and any adhesive found on the nap should be removed immediately with the solvent recommended for the adhesive being used.

The carpet must now be fitted to all of the vertical surfaces it touches. Along straight walls the carpet may be cut in with the Viking Cut Wall Finisher (see Fig. 8) in the following manner:

1. Form the carpet into a 90-degree angle at the juncture of the floor and wall.

2. Set the blade depth and heel plate angle control for the carpet being installed (a shallow blade setting prevents the blade from scoring the wall).

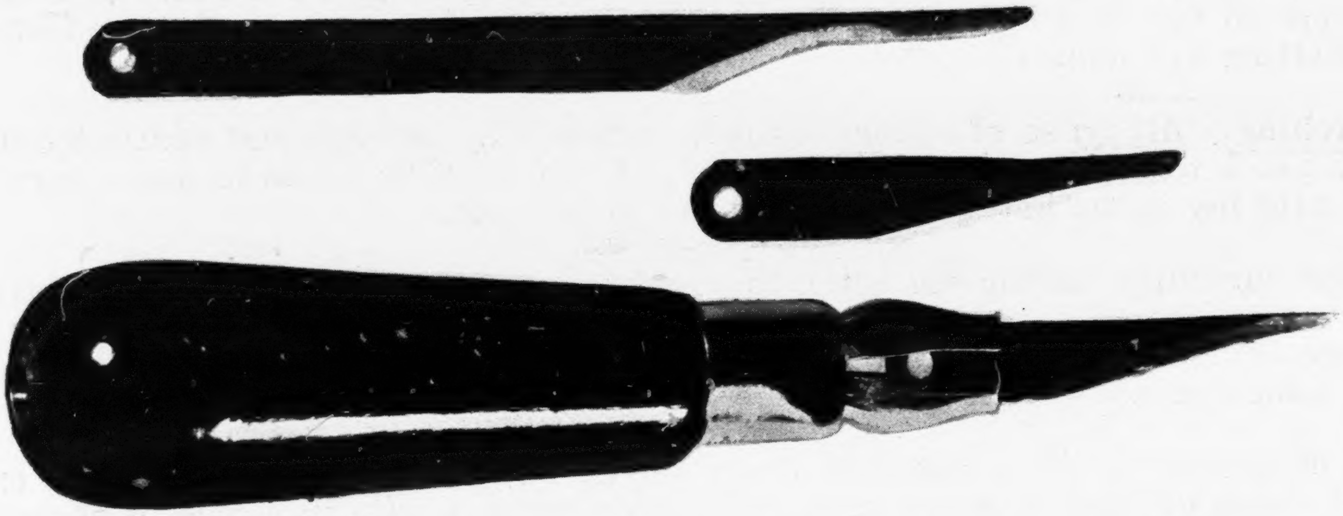
3. Trim with a smooth, even stroke. A slight downward pressure will compress the sponge, which will spring up after cutting to cover any blade mark left on the wall.



The trimmer on the left is the conventional type with fixed handle. On the right is a modified version with a movable handle, which makes it possible to cut in restricted areas such as toe spaces and other low overhangs.

Fig. 8. Wall trimmers

A sharp knife is used to cut the carpet around door casings and other irregular fittings that are inaccessible to the wall finisher (see Fig. 9).



The large blade is especially designed to cut carpet to irregular vertical surfaces. The smaller "Little Fish" blade is for double-cutting cross seams.

Fig. 9. The Swordfish Knife

Roll-in Method. Many installers prefer to use the roll-in method of cementing this type of carpet. This method is generally used in large areas and usually requires a three-man crew:

After all of the breadths have been placed in position in the room, each breadth should be rolled up halfway across the room. The first man spreads the adhesive on the floor to cover the area for the first breadth. The second man then unrolls the carpet onto the adhesive, and the third man uses the knee kicker to keep this first breadth lined up to the chalk line.

The remaining breadths should be handled in the same manner except that, in applying these breadths, seam cement should be applied to each breadth after laying and before the next one is unrolled.

When working in large areas, the installer spreading the adhesive will usually have to stop at the end of each breadth and assist in the finishing of the seams; if he proceeds too fast and some of the adhesive is permitted to set up on the surface of the carpet, this adhesive cannot be removed and the installation will not be satisfactory.

Making a Cross Seam. In the event the job requires cross seams, these should be made in the following manner: The breadth should first be cemented to the floor, except an area of 6 in. to 9 in. on each side of the cross seam. The ends of the breadths should be long enough to overlap 4 in. to 6 in. to allow for enough trim when making the cut.

Using a straightedge as a guide for the knife, the carpet mechanic should cut through both thicknesses at the same time. The ends may then be turned back and adhesive applied to the exposed floor. After seam cement is applied to all of the edges, the cross seam should be finished and cleaned in the usual manner.

Making the 3/4 Installation. Some mills manufacture rubber-backed carpet in 3/4 widths. This material usually has a selvage edge that prevents raveling of the backing and the nap. This eliminates the need for seam cement, except on the cross seams. The roll-in method should always be used when installing 3/4 widths.

Patching. All types of rubber-backed carpet may be repaired easily by setting in a patch to replace the damaged spot. Care must be taken to make sure that the pile lay in the patch matches that in the carpet.

After carefully cutting the patch to match the cutout in the carpet, the carpet mechanic should spread adhesive on the exposed floor and should then use seam cement to secure all raw edges. Then the patch should be installed on the adhesive and carefully fit at the edges.

All doorways or other exposed edges should be protected with one of the special metal or vinyl binders made expressly for use with this type of carpet.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. Three basic "weaves" are used in making rubber-backed carpet. 1. T F

2. When rubber-backed carpet was first introduced, it was made in a Wilton weave and represented a very minor part of the carpet market. 2. T F

3. The most widely used weave at the present time is a modified Wilton. 3. T F

4. The modified Wilton incorporates the weaving techniques of both Wilton and velvet. 4. T F

5. The modified Wilton is an extremely loose weave that permits free passage of liquids between the fibers. 5. T F

6. A modified Wilton of man-made fibers is widely used in kitchen areas. 6. T F

7. The fourth and most popular weave is "flocked" carpet. 7. T F

8. The rubber backing or padding is made in two basic types. 8. T F

9. Rubber-backed carpets are usually secured to the floor with double-faced tape. 9. T F

10. Certain brands of adhesives and seam cement do not require specific methods of application. 10. T F

11. It is usually better to substitute a fast drying plaster-type crack filler for the slower drying latex filler. 11. T F

12. The floor surface to be carpeted must be dry, structurally firm, and free of dust. 12. T F

13. It is necessary to sand or strip waxed floors to ensure cement adhesion. 13. T F

14. A chalk line must be struck on the floor to indicate the exact location of the first seam. 14. T F

15. The protective selvage is removed by cutting between the colored guide line and the first row of yarn with the Cushionlok Cutter. 15. T F

16. For glued-down carpet installation it is essential that the correct amount of adhesive be applied to the floor. 16. T F

17. A trowel, with notches 3/32 in. to 5/16 in. deep and 3/16 in. apart, is usually used for spreading the adhesive. 17. T F

18. It is normal for scum to form over the surface of an adhesive, and this condition does not affect adhesion. 18. T F

19. During installation, it must be possible to move the carpet on the adhesive with the knee kicker. 19. T F

20. Seam cement serves two purposes. 20. T F

21. Some manufacturers of seam cement supply a small brush to be used as an applicator. 21. T F

22. Air bubbles under carpet laid on an adhesive can be easily removed by using a fairly stiff push broom to sweep the air toward the edge of the carpet. 22. T F

23. The carpet can be cut along straight walls by forming the carpet into a 90-degree angle at the junction of the floor and wall. 23. T F

24. A shallow blade setting helps prevent the blade from scoring the wall. 24. T F

25. When a cross seam is made, the breadths should be long enough to overlap 4 in. to 6 in. to allow for trim. 25. T F

TOPIC 6--INSTALLATION ON STAIRWAYS

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- How should an average stair carpeting job be planned?
- What main factors determine the installation method to follow?
- What advantages are gained by measuring and precutting the material?
- How is tackless strip used on stair carpeting?

A stairway is often the focal point of the home, a main feature in the decor. In commercial buildings the stairway is often the center of the architectural make-up of several floors. While some stairways are straight and simple in design, others may be spiral, floating, pie-shaped, concave, convex, or a combination of these. Special care should be taken to enhance the beauty of stairways, and this may be done by the addition of a quality carpet expertly installed by a craftsman.

A knowledge of the various installation methods of stair covering is necessary if the installer is to be prepared to meet the many challenges he will encounter. Stairs require more planning, fitting, and finishing than the average room installation; therefore, more installation time should be allowed for this job in relation to the number of yards of carpet to be installed.

Related Information

Planning. The simplest stair installation is the runner, usually a strip of 27 in. or 36 in. goods. Planning a runner installation consists of measuring and marking the location of the carpet, pad, and tackless strip in relation to the center of the stairs as shown on p. 190, Fig. 9.2, of the assigned Duffin textbook. The installer should plan the location of the "shift"--the excess carpet that is turned under on one of the risers. This extra carpet is left to allow a shift of the runner as it starts to wear on the nose of the tread. (The tackless is left off the riser where the shift is to be located.)

Wall-to-wall stair carpeting may be installed with a turn-under on the sides next to the wall (without tackless) or with a tackless strip on the side of the tread. Sometimes a tackless strip is used on the sides of the riser as well.

The method to be chosen will be determined largely by the type of carpet used and the width of the stairs. Wide stairs require tackless strip on the sides of the tread to hold a tight width stretch, and soft-back carpets may require tackless on the sides of the tread even on narrow stairs. Some types of carpet may be best treated with a scribed turn-under, while others may tend to "grin" (yarn opens at the point of the turn) under these conditions. Other materials may be best installed by binding the raw edge on the open part of the step and "feathering" the pad.

With the many methods of installation necessary to meet the requirements of the various types of carpet and many types of stair construction, it is essential that the installer plans his job well ahead of the actual work.

Measuring and Precutting. On a straight stairway the majority of the steps will be the same width. The tackless strip and padding can be precut on a level surface. Precutting saves time and enables two men to work as a team without crowding each other. For example, if there are 10 crotches that measure 3 ft. 6 in. and there is to be a turn-under on the sides, the installer can cut 20 pieces of tackless 3 ft. 3 in. long. To avoid measuring each piece, the installer can make a mark on the floor of an open area at the appropriate distance from an abutment, then make 20 cuts.

Padding can be cut in the same manner. Since padding needs to be cut square, some installers prefer to lay out the pad measurements in a corner of a room that is square and cut individual pieces for each step. Other installers prefer to cut a runner the width of the step, staple the pad to the step (allowing enough to fasten to the riser), and cut the pad to the tackless strip in the crotch of the step. The runner is precut on a level surface so that a chalk line or straightedge may be used. Precutting the carpet may also involve scribing the turn-under while the carpet is on a firm, level surface. Binding or serging of the edges is best done on a level surface.

Precutting angular steps is sometimes done by fitting the padding to cover the entire step before the tackless is installed. Each pad is marked on the bottom side and used as a pattern for cutting the carpet from the back. (The brown paper from a roll of padding may also be used to make a pattern.) Normally, the carpet is cut one inch larger than the measurement on all sides to allow for fitting.

With accurate measurements and a clear diagram, the measuring and precutting may be done in the carpet workroom. This saves time on the job, and the stairway is not blocked off for as long a time. Some installations may require this method if there is no working area except the stairway itself.

Anchoring Tackless Strip. Anchoring prenailed tackless to the riser can be made easier by using a piece of plywood as a gauge. The plywood may be 5/8 in. to 1 in. thick, depending on the desired gully. The plywood is laid flat on the tread and butted against the riser. Then the beveled edge of the tackless is placed on top of the plywood and anchored to the riser. This method eliminates guesswork and maintains the proper gully.

Some concrete is so hard and contains so much surface aggregate that the prenailed concrete tackless strip cannot be used. In such a case drilling and plugging or contact cements are often used.

When contact cement is used, it is necessary to remove all the wax, soil, or grease that may be on the stairs. If the stairs are painted, it may be necessary to remove the paint as well.

A piece of plywood, similar to that described for tackless installation, may be used to locate the glue line for the adhesive. Both the step and the tackless strip must be coated with the adhesive. The directions on the can of adhesive regarding open time and safety precautions should be followed explicitly. Most contact cements are explosive under certain conditions and are often toxic in a poorly ventilated area. Some contact cements will leave a stain on marble and terrazzo floors. Therefore, if the customer plans to take up the carpet at a later date, the drilling and plugging method may be the best method of installation, although the holes left will have to be filled and leveled.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 186-99.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. Three basic types of stairways are to be considered in normal installations. 1. T F
2. The top step of a stairway may be "bullnose" or a "step return." 2. T F
3. When measuring the stair for carpet, the installer should add one inch to each complete step to allow for padding. 3. T F
4. Stair carpet should be cut one yard longer than the overall measurement to allow for shifting. 4. T F
5. To measure for an angle step, multiply the maximum width by the maximum length and divide by two. 5. T F
6. Cut pile carpet looks better and wears longer if the sweep of the pile runs up the stairs. 6. T F
7. Cheaper qualities of carpet are generally recommended for stairways because the wear is minimal. 7. T F
8. Padding for 27 in. stair carpet should be cut approximately 25 in. wide. 8. T F
9. Tackless strip should be nailed to the tread first, and a space equal to the thickness of the carpet should be left between the riser and the tackless. 9. T F
10. The "compressed edge" technique is used on the riser of the first (or bottom) step when installing a stair runner. 10. T F

11. It is necessary to install tackless strip on the sides of the treads when installing a runner. 11. T F

12. To speed up a stair installation, one installer can be installing the tackless while the other installer plans the layout. 12. T F

13. Installation time on a stairway is greater per square yard than it is in the average room. 13. T F

14. The simplest stair installation is the "runner." 14. T F

15. Wide stairways normally require the carpet to be "turned under" on the side of the tread. 15. T F

16. When many of the steps are the same width, it is advisable to precut the tackless strip on a level surface. 16. T F

17. A plywood spacer is a useful item to hold the tackless strip in its proper position when anchoring it to the tread. 17. T F

18. Anchoring tackless to a marble step can be done by using prenailed concrete tackless strip. 18. T F

19. Some contact cements will leave a stain on marble or terrazzo surfaces. 19. T F

20. Wax must be removed from the floor before using prenailed concrete tackless. 20. T F

TOPIC 7--CAPPING AND STEPS

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- Why does the carpeting of stairs offer a special challenge to the carpet installer?
- How many accepted methods are there for covering a step return?
- What is a "birdcage," and what kind of problem does it present to the carpet mechanic?
- What is the most popular method of covering a bullnose stair?
- What is the outstanding difference between the "skirt" method and any other?

Although modern architectural design has decreased the number of two- and three-story houses being built, the carpet mechanic will still occasionally encounter stairs to be covered. No matter how infrequently he may be called upon to install carpeting on stairs, he should remember that the stairway in a private home is usually an eye-catcher, one that affords him a chance to show his skill. No one can expect to become a journeyman installer without acquiring the ability to do good stair work.

Capping or upholstering of the lower step or two is an important extra touch to any installation. On many stairways the bottom step is longer than the others on one or both sides; usually the ends are rounded and topped by an ornate newel post of wood or wrought iron, forming a "birdcage" of spindles or balusters. If the stairway is carpeted to its full width, this bottom step has to be entirely covered by skillful tailoring, and the carpet must be made to fit with a minimum of seams.

Related Information

Three methods are used in carpeting a bullnose or step return: the Roberts, the skirt, and the simplified. The simplified technique is used by most carpet mechanics. The most important factor in this work is the ability to hand-fit the carpet before final cutting and sewing. The following procedure should be used in carpeting a bullnose:

1. Cover tread and nosing of step return with padding, and bring the padding over the nosing to the tackless strip. Peel padding off at the strip so it will not make a lump when the carpet is brought down to the smoothedge. (Some installers fill out the stair riser with many layers of padding to bring the riser surface even with the outside edge of the tread. This is

unnecessary, however. Many installers lay one layer of padding on the step, drop over the nosing down to the tackless strip, and still achieve a tight, buckle-free fit.)

2. Cut a sufficient amount of carpet (both in width and length) to fully cover both the tread and the riser of the step return, so that the carpet reaches to the floor on all open sides. For width, take a measurement around the complete nosing and add 2 inches. For length, measure from the floor at the rear of the "bullnose," up over the riser and tread, and down the front of the bullnose to the floor. Add a suitable allowance of at least 2 or 3 inches.

3. Secure the carpet on the smoothedge at the bottom of the riser, run up over the bullnose, and secure it in the crotch of the tread and second riser.

4. Stay-tack the carpet around the bullnose to the point where the tread begins to curve into the turn of the step.

5. After the stair is stay-tacked, lift the end of the carpet up and mark the carpet with a pencil. Holding the pencil parallel with the riser, mark the carpet around the bullnose to where the tread begins. Now turn the carpet back from the round end of the bullnose, and cut on the mark up to where the step begins. This cut creates two sections in the carpet--the tread and riser--but the sections are joined across the balance of the step.

6. Hand-fit the riser section, taking this section completely around the bullnose to the junction of the wall and step. To assure a perfect fit, make small incisions approximately 1 to 2 inches apart at the base of the riser. These cuts will allow the carpet to be curved exactly around the bottom of the bullnose. Stay-tack the riser section to the wall; and with chalk, crayon, or pencil, mark a line where the top of the riser material laps around the bullnose. This line will extend from the beginning of the cut to the wall. Remove this section and cut on the line of the riser with a knife or shears. Now stay-tack the carpet across the part where the tread begins. Turn the carpet back from the bullnose, turn it inside out, and sew the two sections together along the curve, using a cross stitch.

7. Reverse the carpet, fit it to the bullnose, tighten with the knee kicker, and finish-tack in place.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 199-217.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. The bottom tread of a stair can have two "bullnoses."   1.   T   F

2. Because a bullnose can be so important to the appearance of a carpet installation, it is one of the very first things to learn about stair covering. 2. T F

3. The skirt method does not have the "fullness" and luxury of the Roberts method because of the two separate pieces. 3. T F

4. The birdcage is not too difficult an installation to make because of the newel post. 4. T F

5. The important factor in achieving a tight, buckle-free fit is in making the inch-apart incisions. 5. T F

6. The inch-apart incisions are made right above the riser and just below the tread. 6. T F

7. When cutting the material for bullnose installation, it is unnecessary to allow any margin over the exact measurements. 7. T F

8. Tape seaming is never used on bullnose work, regardless of which method is used. 8. T F

9. Smoothedge tackless strip can be cut halfway through in order to bend it around the curve of a bullnose step. 9. T F

10. Before cutting the carpet for a step return, it is best to make a diagram on a piece of onionskin paper. 10. T F

11. Only six basic measurements are required to lay out and diagram a piece of carpet for a correctly-fitted and easily-installed bullnose stair. 11. T F

12. On many stairs, the bottom step (bullnose or step return) is longer than the others on one or both sides. 12. T F

13. There is only one correct method of carpeting a step return, and that is the Roberts method. 13. T F

14. Stairways most commonly in use can be classified into three basic types. 14. T F

15. The knee kicker, stair tool, awl, knife, and hacksaw are all important tools used in the installation of a bullnose step. 15. T F

16. The skirt method of covering a bullnose gives a sharp, definite outline to the step because it follows the natural contour of the step. 16. T F

17. The skirt method uses three separate pieces of carpet. 17. T F

18. It is necessary to V-cut the excess carpet that folds over on itself when forced down and around the curve. 18. T F

19. It takes genuine skill, based on long practice, to install carpet around a birdcage. 19. T F

20. In the skirt method, the wall end of the skirt is usually fastened by the turn-and-tack method. 20. T F

TOPIC 8--SPECIAL JOBS

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- How does radiant heating affect the installation of carpet?
- What problems are presented when carpeting "special" floors?
- Why is the construction of each type of carpet so important to the stretching process?
- What is a "dutchman" filler, and when is it used in carpet work?

No course of instruction in any trade could possibly cover every conceivable circumstance, condition, or problem that may be found on the job. In most trades it is equally impossible to list all the materials of the industry, much less describe them; for these are too numerous and are constantly changing.

Whenever possible, however, it is desirable to mention some of the special cases, no matter how infrequently they may be encountered. This topic touches upon some of the materials, conditions, techniques, and problems felt to be important enough to warrant special consideration. Among these are the following:

- Special construction of certain carpets
- The significance of radiant heating as it applies to the installation of carpet
- Problems surrounding carpet installation on terrazzo floors
- The removal of latex and other rubber backings
- The use of fastening tapes on carpet installations

The apprentice installer will learn many trade hints and kinks on the job in the normal course of events. These are so numerous and so varied they could not possibly be included in a single publication. They are, however, just as much a part of the trade as the most precisely described procedure, and the apprentice will soon be passing these hints on to others.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 219-27 and pp. 32-45 (review).

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. Chenille is named after the town in France where it was first woven. 1. T F

2. Chenille is the only carpet that requires two separate and distinct weaving operations. 2. T F

3. The catcher warp threads are the secret to the successful cutting, binding, and seaming of chenille. 3. T F

4. Chenille can be woven in widths up to 30 feet. 4. T F

5. When chenille is installed with tackless strip, it is necessary to cut off the mill heading. 5. T F

6. Tufted construction tends to "give" more when stretching than do other weaves. 6. T F

7. Velvet construction will stretch more in length than in width. 7. T F

8. Radiant heating has been found to be injurious to most carpet installations. 8. T F

9. Carpet laid on an on-grade concrete slab that does not incorporate radiant heating runs the risk of damage from mildew. 9. T F

10. The wax surface of a terrazzo floor offers no problem to modern adhesives. 10. T F

TOPIC 9--FINISHING

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- In what condition should a room be left after a carpet installation is completed?
- What items should a mechanic check on before leaving the job site?
- What is the proper procedure when an installer causes damage to a customer's home?
- What is the key question an installer should ask himself when a job is completed?

In the carpet business a sale is not considered completed until the customer has accepted the finished job. The material and the installation must be to his satisfaction; otherwise he will not pay for it. This is not unique to the carpet trade, but it is certainly characteristic of it. There are some good ways of avoiding, on the finished job, conditions that cause dissatisfaction and result in an unhappy customer. The points covered in this topic are applicable, though not necessarily limited, to carpet installation in the home.

Related Information

After installing carpet in a home, the installer should make certain that everything is in proper order before leaving. The carpet surface should be immaculate--no scraps, threads, or material of any kind should be left lying around. Any furniture that was removed prior to carpet installation should be put back in place, with the same care given the handling of those items as would be afforded the most valuable items. Some installers vacuum a new carpet as a final touch.

Marks on the walls, doors, or door casings should, of course, be cleaned, and the room left in such a condition that the only evidence of the installer's work is a perfectly installed carpet. This is what the customer purchased, what he expects, and what he should receive.

Any large scraps of carpet generally should be left with the customer; small, unusable scraps should be removed from the home. Many installers carry a burlap wrapper with them and use this to collect all waste and debris on the final cleanup.

If for any reason damage has occurred during the course of the installation--broken baseboard, scarred wall, broken furniture, and the like--immediate correction is in order. To tell the customer that "Someone will come and fix it in a few days," or "I'll report it to the shop when I go back," is to ensure the worst kind of public relations. To contact the shop for instructions, when necessary, is good policy, but corrective action should be taken at once.

The customer should be invited to inspect the completed job before the furniture is replaced, as well as after. This is also a good time to answer any questions the customer might have about the carpet or its care and maintenance. This is the final and most important phase of the selling job that began when the customer first walked into the store.

Any complaints should be handled promptly at this time. It should never be left to the salesman or the employer to worry about these things "later on," unless it involves a condition over which the installer has no control. In all cases, the installer should know his shop's policy and follow it.

Perhaps the most important question an installer can ask himself at the conclusion of an installation is, "Does this job satisfy me?" If it does not, it should not be expected to please the customer. Conversely, if the job is a good one, if the installer has done his best work and is entirely satisfied that the job is beyond reproach, then he can expect a favorable reaction from the customer with little or no chance of a later call-back.

As one of the final checkups, the installer should take special care to inspect the carpet for unevenness. It is not too rare a thing for an installer to "lose" a small tool under a carpet--and it is most disconcerting to the customer later on when he feels it underfoot. The same holds true for scrap, bunched padding, and the like. Every square foot of the carpet should be walked on to ensure that it is smooth, even, and comfortable in every respect. It is not an easy or enjoyable task to take up a newly installed carpet just to remove a forgotten object. The rule to follow in such an instance should be: "Better now than later."

An inventory of tools should be taken just prior to leaving. It is easy to forget one--especially a small one--and it is also embarrassing to have to return for it later when the customer calls the shop to report a "found" item.

Assignment

Duffin, D. J., The Essentials of Modern Carpet Installation, pp. 26-29.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. After an installation job is completed, all furniture originally removed from the room should be replaced. 1. T F

2. Walls, baseboards, and ceilings should be inspected for damage as a part of the final cleanup. 2. T F

3. The carpet should be shampooed just before the finished job is shown to the customer. 3. T F

4. When an installation is completed, the only thing left showing should be the scraps left over. 4. T F

5. In the interest of public relations, all questions asked by the customer should be referred to the salesman. 5. T F

6. Usable carpet scraps should be left with the customer if he wants them. 6. T F

7. The customer should be invited to inspect the finished job. 7. T F

8. If a small scrap of carpet is felt under the finished installation, but does not show, it should be left there to flatten out. 8. T F

9. The true test of an installation may be found by the installer asking himself, "Will the customer find anything wrong with this job?" 9. T F

10. A good rule to follow before leaving any job is to inventory the tools, making sure they are all accounted for. 10. T F

UNIT F ▫ Carpet Repairs

TOPIC 1--INSERTS, BINDING, AND SEAM REPAIRS

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- Why does a carpet outlet maintain a workroom for repair purposes?
- What equipment is generally found in a well-equipped carpet workroom?
- How are most binding and fringing repairs made?
- What is "burling," and how is it done?
- What stitch is generally used to repair tears and open seams?

The average well-staffed carpet workroom handles a considerable amount of custom carpet repairing in addition to the handling of new carpet. This kind of operation not only promotes good customer relations but also ensures future sales, for frequently a housewife will have her old carpet repaired and recut when she buys new carpet. This enables her to use the older carpet in less-trafficked areas or in rooms where only a rug is desired.

Repairs may be classified according to type, and the kind of damage and structure of carpet will determine what type of repair to make. Moth damage, burns, and worn spots probably account for the majority of cases requiring repair. The damage may be restricted to a very small area (such as in the case of most cigarette burns), or may be widespread, as is sometimes the case with worn areas.

Whether the repair calls for binding, burling, or fringing or whether the damage consists of holes, worn selvages, or tears and open seams, the carpet mechanic in a workroom must know what technique will result in the most satisfactory job. It is here that knowledge of carpet construction is so important, for only by knowing how a carpet is constructed can a mechanic know what repair method is best to use.

Related Information

Binding. Although a good deal of binding is performed in the shop, much of the binding of carpet can be done on the job site at considerably less expense.

This is especially true when the amount of binding to be done is relatively small and would not warrant a shop job.

Binding is sometimes required on carpeting for areas around a fireplace and on old rugs made into small throw-rugs. Hallway runners can be bound in this fashion when they are used to protect the new carpet underneath. Many times carpets which are showing wear or moth damage near the edges can be cut back, rebound, and used for several more years.

Tears and Seams. Regardless of how well a tear or a seam is sewn, the seam will still look imperfect if the carpet has not been correctly trimmed and the correct stitch used. In the sewing itself, the thread tension must be correct for the material being sewn, and the seam must be "treated" correctly after it is made.

When trimming velvet and Wilton carpet, the carpet mechanic must utilize the tie threads to hold the tufts in place both before and after sewing. All tufts on the seam side of the threads should be removed without disturbing the tie threads; in some cases it may be necessary to secure the tie threads with latex before the sewing is begun.

Assignment

Duffin, D. J., *The Essentials of Modern Carpet Installation*, pp. 228-37.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. When two pieces of carpet are joined, pile lay and match of pattern should first be checked. 1. T F
2. One of the stitches used in joining two selvaged edges is the overcast stitch. 2. T F
3. The cross stitch should not be used to join two selvaged edges. 3. T F
4. The cross stitch is the same as the overcast stitch, except that it is done twice. 4. T F
5. The porcupine roller should not be used on a four-way seam. 5. T F
6. On repairing rugs, one should allow an hour or more before removing the stay-tacks. 6. T F
7. Matching yarn can usually be obtained from a supply house or picked up from matching scraps. 7. T F

8. A missing tuft is a common irregularity that is not considered a carpet defect. 8. T F

9. The same methods employed to repair cut pile fabrics may be applied to round wire or looped fabrics. 9. T F

10. Most fabrics are woven with the tufts looped around the bottom shot. 10. T F

11. New pile resulting from carpet repairs should be steam-ironed to take off some of the "newness" and to make it blend with the older pile. 11. T F

12. Latex and similar compounds have to be removed from carpet backing during reweaving or burling. 12. T F

13. When repairs are begun on large areas, the knee kicker should be used to relieve the stretch load around the damaged spot. 13. T F

14. Many workrooms may lack the necessary yarns for burling or for replacement of missing or damaged tufts. 14. T F

15. Most binding jobs are done in the shop. 15. T F

16. Binding tape comes in neutral colors and tones. 16. T F

17. Latex is used on many repair jobs. 17. T F

18. A curved needle is always used for sewing binding. 18. T F

19. Binding on the job can be done by hand or machine. 19. T F

20. A flat basket-weave stitch on a pole is used to repair tears. 20. T F

21. A flat basket-weave stitch is the most complicated stitch possible. 21. T F

22. When seams are made in carpet, it is not necessary to check pile lay. 22. T F

23. It is not advisable to use latex or a similar adhesive to strengthen a seam or tear. 23. T F

24. The best needle to use for repairing a damaged seam is the straight needle. 24. T F

25. Latex adds strength and longer wear to seams and tears. 25. T F

TOPIC 2--SPOT CLEANING

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What is the most important single factor affecting spot removal on carpet?
- How many general groups of stains are there?
- What is the best method of identifying and treating stains?
- What is bleaching, and when is it used on carpet stains?

The removal of spots or stains from carpet requires a thorough knowledge of the procedures to be followed; such cleaning is normally done by professional carpet cleaners. This topic is not intended to train each carpet installer to become a professional carpet cleaner; but when a professional carpet cleaner is not readily available, emergency measures must sometimes be taken to save a piece of carpet. This information will also enable the installer to intelligently discuss the subject of spot cleaning with the customer.

Related Information

The most important single factor in stain removal is speed. If the spot is cleaned as soon as it is made, the effort required for complete removal is minimized. The longer a spot remains on a carpet, the more opportunity it has to soak in and penetrate to the back, forming a dried mass that requires much more work to remove. Some types of stains also change chemically with time; and the longer these stains remain, the more difficult they are to remove without leaving a trace or damaging the carpet pile.

Even clean water that penetrates the nap and wets the organic backing material or the padding will create a stain if it is not immediately attended to. When the water enters the backing, it may loosen or put into solution any foreign materials or dyes that are present; and if the carpet is permitted to dry from the face, the pile will act as a wick and carry these substances to the top, creating a permanent stain. When water penetrates the backing, the carpet should be unfastened so that it can be turned back far enough to expose all of the wet area. It is advisable to insert crumpled paper between the two pile surfaces of the carpet so they will not touch each other. This also provides passage for air to circulate. As the carpet dries, the wick action will move any foreign substances to the surface of the exposed backing. In other words, always dry carpet from the backing, never from the face or pile side.

First Aid Treatment

Accidents do happen, and carpets will be stained as a result. Most "spills" are easily removed with ordinary materials found in the house, but those more difficult to clean should be treated by a professional rug cleaner.

Some substances are capable of combining chemically with and destroying the colors and fibers in a carpet. These substances may produce permanent stains if not given prompt attention. In highly concentrated form, some of these materials react so quickly that there is little or no chance for satisfactory removal. This type of stain occurs infrequently, but usually special solvents, chemicals, and techniques are required for removal. These methods, when practiced by someone unskilled and inexperienced, can be more damaging than the stain.

This section deals with simple remedies and techniques. These methods may not remove all spots, but they should not harm the carpet or "set" the stains. It should be remembered that these are emergency treatments only, designed to cope with the usual household accidents. In all instances, the steps of the recommended procedures should be followed in the sequence given.

Procedure for Removing Spillage:

1. Scrape or blot the spillage immediately. Quick action may remove the substance before it penetrates the pile of the carpet. The longer the substance remains on the carpet, the more difficult it will be to remove.

   Use a spoon or the back of a knife for cleaning up semisolids or greasy substances. Use clean, white, absorbent cloth or paper towels for blotting liquids.

   Begin at the outer edge of the spot and work toward the center of the stained area. Do not brush or rub the spot. Use a blotting or dabbing motion. Excess friction on the surface of most carpets will disarrange the pile and make a matted spot.

2. If the stain remains, apply some solvent cleaning fluid (dry solvent) with an eye dropper; keep blotting the spot with clean tissue. Continue blotting until no more stain can be picked up on the tissue.

   Caution: Apply the solvent sparingly. Excessive soaking may cause rings on the surface. Follow the solvent manufacturer's instructions.

3. If the stain does not respond to the foregoing treatment, dissolve a teaspoon of a neutral synthetic detergent in water and household ammonia. Apply sparingly to the area, and blot with clean tissue until dry.

4. If stain remains, prepare a solution of three tablespoons of lukewarm water and one tablespoonful of white vinegar. Apply this solution to the stain. If it responds to treatment, continue blotting until no more stain picks up. Finish blotting with clean white tissue.

5. Never allow a wetted area to dry naturally. Remove as much moisture as possible by blotting, and then put a pad of cloth or several paper towels under a light weight on the affected area until the fabric is completely dry. When thoroughly dry, brush the pile to restore the texture.

6. If the stain has not responded to these cleaning procedures, seek professional help. Haphazard attempts at spot removal can cause permanent setting of stains, pile distortion, matting, and loss of color. When calling a professional rug cleaner, give him as much information as possible, for example:

    - The material causing the stain
    - The type of face fiber in the carpet
    - The color of the carpet
    - Whether cut or loop pile
    - Age and general condition of the carpet

Types of Stains

Carpet is subjected to a wide variety of stains. These stains often are not noticed until hours after they have occurred. This time lag increases the difficulty of their removal. In addition to the time lag, there is the problem of identification.

When stain identification is possible, use the method specifically prescribed for the removal of that type of stain.

Although there are a great variety of staining substances, some of them will respond to the same chemical treatment. This makes it possible to classify stains according to chemical reaction and reduce the number of special removal techniques.

Stains are classified into three general groups: the dry, the dry-wet, and the wet. The dry type of stain responds to dry solvents, but not to water.

The dry-wet type is usually a combination of water-soluble substances held by a binder that is dry soluble.

The wet type of stain is soluble in water or a water-based solution. The wet types of stains can be divided further into these groups:

- Emulsifiable stains can be broken up mechanically and removed by the action of a detergent.
- Digestive type stains are insoluble starches and proteins which must be broken down chemically or digested before they can be dissolved.
- Yellow-brown stains are degradation products caused by aging, heat, and wetting. These are frequently referred to as "Tannin stains."
- Metallic stains are usually caused by corrosion and rub-off.
- Dyes and color stains.

Detailed explanation of these stains and procedures for their removal follow.

Identifying and Treating Stains

If a stain is not identified, a "trial and error" technique may be used, one in which none of the steps interferes chemically with subsequent steps. Before listing these methods of stain removal, however, it will be necessary to examine the characteristics of various staining materials:

Dry Stains

Generally, these spots are dark in color and collect dirt. They can be greasy, but can also be stiff. Some of the substances in this group are:

Airplane cement
Asphalt
Chewing gum
Cooking oils and fats
Cosmetics
Dry type inks (ball point)
Greasy foods
Household cement
Furniture polish
Lacquers
Linseed oil
Machine oil and grease
Oil paints
Rubber cement
Shoe polishes and dyes
Varnishes, waxes, and tars

Removal Procedure:

1. Soak with dry cleaning solvent.
2. Scrape with a spatula.
3. Continue to work and absorb with tissue until the pickup of color ceases.
4. If the stain remains, use oil type paint remover and repeat steps 2 and 3.
5. Try lacquer solvents, and repeat steps 2 and 3.
6. Use oil dye solvents, and repeat steps 2 and 3.
7. Use rubber solvents, and repeat steps 2 and 3. Rubber-type stains can also be removed by freezing the substance with either carbon dioxide gas or dry ice, then breaking off.
8. Dry either with air vacuum or a stack of tissues under a light weight and let the fabric dry.

   Caution: Avoid excessive breathing of the fumes. Do not over-saturate the stain with dry solvents, or a ring can result. Follow the solvent manufacturer's instructions.

Dry-Wet Stains

The dry-wet type of stain is usually stiff or powdery and contains coloring pigments. In this class are substances such as:

Oil paints
Wood primers
Wood fillers
Putty
Mascara
Nail polish
Rouge
Marking ink
India ink
Printer's ink

Removal Procedure:

1. Soften the binder with the dry solvent.
2. Scrape excess solvent with a spatula and absorb with tissue. Continue until the pickup of color and solvent ceases.
3. Soak with an oil-type paint remover, and repeat step 2.
4. Use a volatile type of paint remover, and repeat step 2.
5. Dry the spot either by vacuum or absorbent tissues.
6. Use a neutral synthetic detergent, and repeat steps 2 and 5.

Wet Stains

Emulsifiable Stains. These stains are usually stiff and crusty and are all generally insoluble. To be removed, they must be broken down into minute particles and emulsified. Some of these types of stains are:

Dirt
Clays
Some paints
Carbon paper
Building cement
Dry-type residues
Lime
Plaster

Removal Procedure:

1. Soften with a neutral synthetic detergent.
2. Scrape off the excess detergent, and gently blot with tissue until no more pickup occurs.
3. Rinse with tap water and repeat step 2.
4. If spot persists, use neutral synthetic detergent with ammonia solution, and repeat steps 2 and 3.
5. Use a wet spotter, and repeat steps 2 and 3.
6. Dry either by using a vacuum or a weighted pad of absorbent tissues over the area.

   Caution: Do not over-soak or spread the area.

Digestive Stains. Stains that respond to digestive-type treatment are usually hard to remove and they entangle the pile of the carpet. They also may have an objectionable odor. Some of these stains are:

Animal glue
Blood
Cream
Casein paint
Egg
Gelatin
Gravy
Feces
Milk
Ice Cream
Vegetable glue
Vomit

Removal Procedure:

1. Wet the spot with lukewarm water.
2. Apply the digester and work it in with fingers.
3. Keep adding the digester so that the spot is kept wet for about half an hour.
4. Rinse the area with warm water, and absorb with tissue until the pickup of stain and moisture ceases.
5. Use a wet spotter; work on the area, and absorb the moisture with tissue.
6. Repeat step 4.
7. Dry the area.

Caution: Keep the spot moistened at all times with digester, and keep it warm if possible.

Tannin Stains. The tannin-type stains are usually tan or brown in color and contain no odor. Frequently these stains cannot be completely removed. Some of these stains are:

Coffee
Tea
Beer
Wine
Liquor
Cocktails
Soft drinks
Fruit juices
Tobacco
Grass and leaves
Animal stains
Barnyard soil
Some inks

Removal Procedure:

1. Wet the spot with tannin stain remover, and allow to soak for a few minutes.
2. Work the area by moistening and absorbing until the pickup of stain ceases.
3. Rinse the spot with water and absorb.
4. Soak the stain with wet soaking solution, and work it into the pile. Place a one-half inch layer of weighted-down tissue over the spot, and let it stand for 15 minutes. If spot remains, repeat the procedure.
5. Repeat step 3.

6. If spot persists, remoisten the area with water, and cover it with several layers of clean dry cloth.

7. Place a hot iron on the cloth and press down with moderate pressure until the escape of steam has nearly stopped (usually 10 seconds).

8. Repeat step 7 until there is no more pickup on a clean cloth applied to the affected area.

9. If the stain persists, use some rust remover, and repeat steps 2 and 3.

10. If the stain still persists, the next step is bleaching. (The procedure for bleaching will be discussed at the end of the discussion on spot removal techniques.)

Metallic Stains. These stains are of various colors and appear as powdery smears. The stains that fall into this group are:

Iron rust (dark brown)
Copper corrosion (green)
Silver nitrate (blackish gray)
Argyrol
Jeweler's rouge
Red clay
Brass (green)
Some paint residues
Potassium permanganate (brown)

Removal Procedure:

1. Soak with a neutral synthetic detergent.

2. Scrape up excess and absorb with tissue.

3. Flush with water and absorb.

4. a. Use rust remover for iron.

   b. Use 10-percent solution of potassium iodide, saturated with iodine, followed by 1.5-percent solution of sodium bisulfite to remove silver stains.

   c. Use 1.5-percent solution of sodium bisulfite. (Follow this with acetic acid for permanganate stains.)

   d. To remove copper and brass stains, use 5-percent acetic acid.

5. Absorb and rinse with water.

6. Dry the area.

   Caution: Before using these chemicals, try them on a few tufts elsewhere on the carpet where it will not be seen. Rust remover is harmful to the skin; wash quickly if it comes in contact with hands. The chemical used in rust remover will etch glass and metal.

Dye and Color Stains. This category includes the following substances:

Wet inks
Medicines
Leather dyes
Some furniture dyes
Water colors
Colored paper
Bunting
Bubble lights
Transfer colors

Removal Procedure:

1. Soak with neutral synthetic detergent and blot until pickup of matter ceases.
2. Saturate with wet soaking solution. Place one-half inch layer of weighted-down tissues and let stand for 15 minutes. If the spot remains, repeat the procedure.
3. Absorb and blot until pickup of stain and moisture ceases.
4. Rinse with water and absorb.
5. Apply acetic acid, and repeat step 3.
6. Repeat step 1.
7. Apply ammonia solution, and repeat step 3.
8. Flush with water and absorb. If the stain persists, use the bleaching process.
9. Rinse with water, absorb, and dry the spot.

Unidentifiable Stains

In the event the spots cannot be identified, the following general spotting procedure can be used:

1. Soak the spot with dry solvent.
2. Scrape and absorb until pickup of solvent ceases.
3. Try oil-type paint remover, and repeat step 2.
4. Next try special solvents for lacquer, oil, dyes, and rubber.
5. Rinse and repeat step 2.
6. Dry the spot.
7. Soak the stain with tap water, and repeat step 2.
8. Try digestion method; rinse, and repeat step 2.
9. Use the general formula. Rinse and repeat step 2.

10. Try wet spotter. Rinse and repeat step 2.

11. Bleach. Follow instructions.

12. Shampoo, using neutral synthetic detergent, and repeat step 2.

13. Dry either by vacuum or by placing a weighted stack of absorbent tissues over the spot.

Bleaching

If the spots do not respond to the previously mentioned techniques, they can often be reduced in intensity by bleaching.

The bleaching of spots is considered a last resort, because in nearly every case the carpet dyes will also be affected. If the bleaching is not controlled correctly, a noticeable stain that frequently is more objectionable than the original stain can result. The area will then have to be disguised by spot dyeing, burling, or patching.

If bleaching is to be attempted, the following procedure is recommended:

1. Test the intensity of the bleach on some obscure area of the carpet.
2. Wet the defective area with a neutral synthetic detergent.
3. Apply some bleach on the spot with a swab (hydrogen peroxide, 1 percent).
4. If the change is too slow, accelerate the bleaching action by applying a 7-percent ammonia solution. (Use a fresh swab for this purpose.)

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. The removal of spots or stains from carpet requires a thorough knowledge of all the prescribed procedures. — 1. T F
2. The most important single factor in stain removal is speed. — 2. T F
3. The longer a spot remains on a carpet, the more opportunity it has to soak in. — 3. T F
4. Some types of stains never change chemically with time. — 4. T F
5. Clean water that penetrates the nap and wets the backing material will not create a stain. — 5. T F

6. Some spilled substances are capable of combining chemically with and destroying the colors and fibers in the carpet. 6. T F

7. When cleaning a spot on the carpet, a carpet mechanic should begin from the center of the stained area and work out. 7. T F

8. It is much better to brush or rub the stain, rather than to use a blotting or dabbing motion. 8. T F

9. Friction on the face of most carpets will disarrange the pile. 9. T F

10. A carpet mechanic should apply liberal amounts of solvent when cleaning a spot. 10. T F

11. Excessive soaking with a dry cleaner may cause rings to form on the surface of the carpet. 11. T F

12. A wetted area of a carpet should not be allowed to dry naturally. 12. T F

13. The pile should never be brushed to restore the texture. 13. T F

14. Carpet is usually subjected to a wide variety of stains. 14. T F

15. If treatment is started hours after the stain occurs, the difficulty of removal is increased. 15. T F

16. Stains are classified into four general groups. 16. T F

17. Oil paints, mascara, and nail polish are all dry-wet types of stains. 17. T F

18. Iron, copper, and brass stains fall in the dye and color stain category. 18. T F

19. Before using chemicals, the carpet mechanic should try them out experimentally on a few tufts. 19. T F

20. A stain is bleached only as a last resort. 20. T F

TOPIC 3--WASHING AND DRY CLEANING

Introduction

This topic is planned to help the apprentice find answers to the following questions:

- What constitutes good care and maintenance of carpet?
- How often should a carpet be vacuumed?
- What are the accepted methods of cleaning a carpet?
- What is "in plant" cleaning, and when is it required?
- What is the recommended procedure for surface brightening?

Wall-to-wall carpeting is considered almost a necessity in private homes and apartments. The benefits of wall-to-wall carpeting are widely known and readily accepted as part of the home decorating plan. Modern technology has created new and improved synthetic fibers, and these fibers, together with the development of the modern tufting carpet loom, have made possible an attractive, high quality product within the means of the average American family.

The many environmental advantages of carpet include harmonious colors, better acoustics, and good thermal properties. In addition, a hidden benefit to the buyer is the "built-in" safety factor. Many bumps and bruises--and even more serious injuries--have been avoided because there was carpet on the floor.

The same good housekeeping rules used on commercial carpeting are applicable to residential carpeting. The installer should explain to the housewife that the carpet should be vacuumed as often as possible. In fact, a carpet that is frequently vacuumed will wear better and retain its original appearance longer than one which is not.

The areas where carpeting is used in the home have expanded beyond the living room, halls, stairs, and bedrooms. The trend towards carpeting kitchens, bathrooms, and even patios has increased sharply. Synthetic fibers with low moisture absorption properties are ideal for these areas. Spot removal is easy with synthetic fibers (such as acrylic) if attended to promptly.

A carpet installer should always take a little time at the completion of a job to explain a few simple rules of maintenance. These basic rules include (1) frequent vacuuming with an upright beater type vacuum; (2) occasional rearranging of heavy furniture in a room; (3) prompt spot and stain removal, using a kit sold by most carpet stores; and (5) removing excess liquids by ordinary facial tissues, weighted down with a book or similar object.

Related Information

Carpets will give excellent service, provided they receive reasonable care and attention. The failure of owners to follow the basic rules of good maintenance shortens the service life of carpet. Even the best grades of carpet have limitations and can be abused.

Carpets, whether expensive or inexpensive, are expected to remain attractive and last a long time. It should be understood that the ease of maintenance and the useful life of a carpet do vary with different types of carpet construction. The dense constructions, for example, clean easier and wear longer than other types.

It is important that the correct carpet be selected for a particular use. Each room, floor, or other area has specific problems, and carpet should be maintained according to the needs. Therefore, the amount of cleaning a carpet requires depends upon the amount and type of traffic it must carry. Atmospheric conditions and the amount and type of dirt prevalent in a particular location are among the factors that determine the life of a carpet. Even under adverse conditions, a carpet will retain its attractiveness over a prolonged period of time if given proper care.

Maintenance

There is no set procedure specifying when to sweep, vacuum, or shampoo a carpet. These tasks depend on prevailing conditions. The following schedule, however, is considered good practice:

1. The carpet should be vacuumed daily in moderate and heavy traffic areas.
2. The entire carpet should be thoroughly vacuumed at least once a week.
3. Spots should be cared for immediately.
4. The carpets may be cleaned "on location" when the soil level in the pile has penetrated no more than one-third of the total pile height.
5. If the dirt has been allowed to penetrate one half the pile height or more, "in plant" cleaning should be used.

Need for Vacuum Cleaning

The purpose of vacuum cleaning is to remove the soil from the carpet and keep the pile erect. Heavy traffic areas require frequent vacuuming to remove the coarse dirt particles that can act as abrasives on fiber and shorten the life of the carpet. Under the pressure of foot traffic, dirt penetrates the surface of the carpet between the fibers and works down deep into the pile, making it more difficult to remove. If left in the carpet too long, it tends to combine with the oily atmospheric impurities to form a film that binds and clings tenaciously to the fibers, dulling the carpet's appearance.

Frequent vacuuming will not harm the carpet, provided the vacuum cleaner is in good mechanical condition. On the contrary, it is beneficial because it prolongs the life of the carpet by removing the dirt and by delaying the need for wet shampooing.

Equipment

A floor sweeper and hand brush are handy for removing lint and crumbs or for brushing up the pile. However, this removes only surface litter and allows the fine particles to settle into the depth of the pile.

A straight suction type of vacuum cleaner without a brush or beater attachment tends to remove the surface dirt only and does not loosen the embedded grit. A powerful motor-driven brush and beater-bar type of vacuum cleaner usually does the best carpet cleaning job.

Method

A vacuum cleaner should be pushed slowly along the carpet to enable its vacuum action to remove the embedded soil particles. A carpet may be vacuumed in any direction; however, the final stroke should be with the pile lay. For example, for light cleaning three strokes should be made over an area--forward, backward, and forward again. The last stroke forward should move the cleaner into the next area. At least five to seven strokes are required for a thorough cleaning.

The brushes of the vacuum cleaner should be kept clean, and the dirt bag should never be allowed to fill more than half way. The directions given by the vacuum manufacturer should be followed.

Seasonal Cleaning and Surface Brightening

The efficiency of the routine sweeping and vacuum maintenance may be excellent, but eventually the colors of the carpet may become dull. This condition is caused by an accumulation of atmospheric pollution and small soil particles, held together with an oily binder. This accumulation does not yield readily to mechanical means of removal. To restore the factory-fresh appearance of the carpet, the carpet must be given special attention. The present popularity of bright hues and pastel colors has made this increasingly necessary.

Moderately soiled carpets--those in which the soil goes down no farther than 1/3 of the pile height--can be cleaned in place or "on location." Those that are very dirty will have to be removed from the floor and sent to an establishment especially equipped to process carpet. This is called "in plant" cleaning and is much more thorough and complete than any other method of carpet cleaning. The carpet is dusted, wet-washed or shampooed, water rinsed, and dried. This is a certain and positive method of cleaning.

The "in plant" method is applicable to all loosely-laid carpets and rugs, but is not convenient for the fixed-in-place, wall-to-wall installations. The added cost of removing and reinstalling such carpet creates the need for a satisfactory method of cleaning the wall-to-wall installations on location.

Cleaning on Location

To maintain a satisfactory appearance level of home carpet and defer the need for a professional cleaning, a "do it yourself" method of surface brightening may be used, but this should not be considered equal to professional "on location" cleaning.

Two basic types of "on location" cleaning are used: the wet and the dry method. The wet method consists of applying the suds of a detergent, followed by mechanical brushing and a wet vacuum pickup of the suds. The dry method consists of spreading an absorbent material, followed by mechanical brushing and vacuuming.

The restoration of color and brightness by the dry method is less than when a wet shampoo is correctly applied. The advantages of dry material cleaners are less distortion of texture, better removal of greasy soils, no color bleed, and little or no drying time, making the space available for immediate reuse. Neither of these methods uses thorough wetting and rinsing to flush away the soil. These limitations should be understood, and if satisfactory restoration of the original is desired, the carpet should never be allowed to accumulate an excessive quantity of soil.

Dry Method. Absorbent powder type cleaners, in general, are applied by the following method:

1. Thoroughly vacuum the carpet.

2. Sprinkle the powder liberally over the area to be cleaned, and brush it into the carpet with a clean broom or a bristle brush. (Several powder manufacturers also make mechanical brushes for this purpose.)

3. Allow the powder to dry thoroughly, and then vacuum well. (The instructions issued by the powder manufacturer should be followed.)

Wet Method. Wet detergents should be applied as follows:

1. Vacuum the carpet thoroughly.

2. Dissolve one-half cup of a neutral synthetic detergent in a gallon of lukewarm water.

3. Pour the solution into a flat pan; dip a fiber bristle brush into the pan; shake the brush once; and apply the suds, using a rotary motion.

4. Wipe off the suds with a damp cloth or sponge, moving in the direction of the pile, and brush or lay the pile if necessary.

5. Dry the carpet as rapidly as possible by using fans, electrical heating units, and good ventilation.

Several rotary brush machines that yield results superior to a hand brush are available. The manufacturer's instructions should be followed when using the machines.

Caution: Soaps, ammonia, washing soda, or highly alkaline detergents must not be used, for these can cause the dyestuffs to "run" or can alter the shade of the carpet. Some of the preparations sold on the market cannot be removed from the carpet pile; and they will attract dirt, causing the carpet to soil again rapidly. Excessive wetting or rubbing of the carpet must be avoided.

Furniture should not be placed on a wet carpet. If it is necessary to replace furniture before the carpet is completely dry, pieces of plastic or paperboard should be used to prevent furniture stains. Also walking on carpet should be avoided when the carpet is wet. The carpet should be thoroughly vacuumed when it is completely dry.

Wet cleaning methods are, in general, better suited for nylon and other man-made fibers. Nylon carpets may be wet-cleaned more frequently than absolutely necessary because the fibers have a natural tendency to mat, and the carpet subsequently loses its textured appearance.

Each type of fiber has advantages and disadvantages. Wool is the standard of the industry because widespread experience has proven its satisfactory performance. Nylon has distinctive wear superiority.

Special Problems

Stair Carpets

The edges of carpeted stair treads receive much more punishment than the rest of the carpet. To get the most service out of stair carpet, the carpet should be moved down a few inches on the riser before the "nose" is worn bare. To do this, the carpet should be laid with an extra foot of length folded under one or two risers at the top or bottom of the stairs, preferably at the top. Proper timing and spacing make several shifts possible before carpet replacement is necessary.

Rugs

To obtain maximum service and best appearance, a rug should be rotated periodically. A rug having a rectangular shape can be alternately changed end for end.

Any rug should overlap the end of its pad by about one inch, so that the rug will drape over and conceal the pad. Improper overlap will cause the rug to curl at the edges, which is a tripping hazard. Also, the continual crushing and flexing of the edges causes fraying and an unsightly appearance.

Adjust any overlap by cutting the pad and bending the carpet in the opposite direction to the curl. If curling persists, use double-faced adhesive tape to fasten the edge and prevent it from being kicked up.

Wall-to-Wall Carpet

A rearrangement of furniture can often be used to redirect traffic and equalize wear. Throw rugs can also be used in heavy traffic areas, such as doorways, in front of chairs, television sets, and the like to protect the carpet in those areas.

Special Conditions

Shedding. Shedding is not a carpet defect, but rather a condition common to all new fabrics. The pile yarn of carpet contains a certain amount of short fibers that work loose during service. The shedding will decrease gradually over a period of time.

Sprouting. After the carpet has been laid, a tuft may be seen protruding above the surface. This condition, called sprouting, is common in Wilton fabrics. In weaving, one end of the yarn has been pinched between the shots and then worked loose. The section of yarn that rises above the pile surface should always be clipped, not pulled out.

Shading. After installation some carpets appear to change colors in certain areas. These areas, generally irregular in shape, have a dark, blotchy appearance, looking very much as though they were caused by spilled water. When viewed from an opposite direction, the same area appears to be lighter. This is not a defect but rather an inherent characteristic of cut pile fabrics.

This kind of shading is caused by the difference in light reflection between the side and the cut ends of the tufts. The side of the tuft appears lighter in shade than the cut ends, and this contrast makes it necessary to impart a definite lay (direction) to the pile, which is done by making use of wool's tendency to take a "set" when steamed and brushed. Shading will result if the pile is disturbed. This can occur in traffic areas and at traffic pivot points where the tufts are pushed in random directions. Shading also is caused by irregularities in the underlay and floor surfaces.

Shading can sometimes be corrected by persistent sweeping in one direction with a bristle brush. Wet cleaning, followed by brushing the pile in one direction while still wet, will also help to correct shading. The success of any of these methods will depend upon the severity of the crush, and the effort put into the corrective process.

Shrinkage. Yarns used in construction of the carpet back have an inherent tendency to shrink when subjected to moisture, which is one reason why rugs and carpets are not guaranteed against shrinkage. Carpets properly cleaned "on location" should not shrink any appreciable degree. Shrinkage may be caused by saturating the back of the carpet with a liquid. During "in plant" cleaning, carpets will usually shrink if not held to their original dimensions during drying.

Some professional carpet cleaners control carpet shrinkage by the use of stretcher bars, and some tack and stake the carpet to the original dimensions. This requires additional labor and involves extra cost.

Shrinkage is used advantageously by carpet installers who frequently prewet the back of the carpet when making a wall-to-wall installation. When the carpet dries, it contracts and tightens. The force generated by the carpet when shrinking will not pull up the tackless stripping, providing the stripping is fastened securely.

Static. Static can be annoying during periods of low humidity. Man-made fibers, in general, absorb less water than wool and generate more static electricity.

Water and antistatic agents can be used to reduce static buildup. Antistatic treatments are moderately successful and do not promote soiling if the correct compound is used.

Crushing and Depressions. Pile crushing will occur to some degree and is unavoidable, although regular vacuuming will minimize this condition. The feet of furniture will compress and cause depressions in the carpet. Appropriate furniture pads or cups are recommended.

Fuzzing and Pilling. Loop pile fabrics made from yarns of staple fibers will fuzz to some degree. This fuzz normally breaks off or wears away in a relatively short period of time. The fuzz of long-wearing staple nylon fiber usually persists for a long period of time.

Lint from various sources or from the weaker fibers in the carpet will get tangled in the pile and cling to the strong protruding fibers to form "pills." Persistent vacuuming can prevent this condition, or at least can hold it to a minimum. The remaining pills can be removed without harm to the carpet by clipping or by brushing with special blocks or bricks such as Ze-Go Block. Continuous filament nylon (501) does not shed, fuzz, or pill.

Checkup

Read each statement and decide whether it is true or false. Circle T if the statement is true; circle F if the statement is false.

1. Today, wall-to-wall carpeting is considered almost a necessity. 1. T F
2. The use of carpeting in the home has not expanded beyond the living room, hall, and stairs. 2. T F
3. Regular care of carpet will prolong its life. 3. T F
4. A thorough cleaning of carpet by vacuum cleaners is necessary at least twice a week. 4. T F
5. Spots should be removed promptly. 5. T F
6. The purpose of vacuum cleaning is to remove the soil from the carpet and keep the pile erect. 6. T F

7. Heavy traffic areas require more frequent vacuuming. 7. T F

8. A whisk broom is best for removing lint and crumbs or for brushing up the pile. 8. T F

9. A carpet may be vacuumed in any direction. 9. T F

10. The dirt bag on a vacuum cleaner should not be allowed to fill over one-quarter full. 10. T F

11. Three different types of "on location" cleaning procedures are used in cleaning carpets. 11. T F

12. Soaps, ammonia, washing soda, or highly alkaline detergents should not be used on carpet. 12. T F

13. Furniture can be set on wet nylon carpet, without danger of stains. 13. T F

14. A rug should be turned occasionally to obtain maximum service. 14. T F

15. Shedding is not a carpet defect. 15. T F

16. All carpet seems to change colors in certain areas after installation. 16. T F

17. Crushing will occur to some degree on every carpet and is unavoidable. 17. T F

18. Static electricity can be annoying during periods of low humidity. 18. T F

19. A vacuum without brush or beater action is generally recommended for most carpets. 19. T F

20. A carpet made of continuous filament nylon is subject to early shedding. 20. T F

Instructional Materials

REQUIRED INSTRUCTIONAL MATERIALS

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